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ABSTRACT

Volume one of a two-volume report on a project designed to study the relationship between vocational teacher technical competencies and occupational experience factors, this document contains a national literature and research review pertinent to the topic. The review findings were summarized and are presented in the following format: a basis and rationale for occupational experience in vocational education, current research relative to occupational experience, and concerns for the future of occupational experience. A number of important papers and reports are appended, some of which are titled as follows: "Developing Inservice Programs"; "Occupational Experience--A Business Teacher's Asset"; "The Trade and Industrial Education Teacher's Background, Values, and Attitudes Toward Teaching"; "Survey Study of Selected Illinois Vocational Education Personnel"; "Work Experience for Prospective and In-Service Business Education Teachers"; "Structured Occupational Experience for Teachers"; "Professional Improvement While on the Job"; "Increasing Teacher Competency through Relevant In-Service Education"; "National Occupational Competency Exams for Future Teachers"; "Teacher Competencies and Certification: How Influential Is the Research?"; "Structured Occupational Internship for Experienced Vocational Teachers"; "Occupational Experience for Vocational Education Teachers"; and "A Study of the Attitudes and Teaching Behaviors of Occupational Orientation Teachers in Mississippi." (BM)

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FINAL REPORT

Volume 1, Review of Literature

THE EFFECT OF VOCATIONAL INSTRUCTOR'S OCCUPATIONAL EXPERIENCE AND EXPERIENCE RECENCY ON INSTRUCTOR'S ATTITUDES AND PROFICIENCY

PROJECT NUMBER 75-04-02-010

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Fort Collins, Colorado

August, 1976

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CE 013 212

Preface

This report is submitted upon completion of the project, "The Effect of Vocational Instructor's Occupational Experience and Experience Recency on Instructor's Attitudes and Proficiency".

The project was funded under Part C of the Vocational Education Act through the Colorado State Board for Community Colleges and Occupational Education, project number 75-04-02-010.

It was deemed necessary by the project co-directors that the Review of Literature conducted as a part of the project and here presented, be submitted as a seperate volume from the technical report presented as Volume II of the final report.

Recognition is given Mr. John Oades, the project assistant, for his efforts in gathering and assembly of information presented in this review.

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REVIEW OF LITERATURE

Introduction

Due to the nature and implications inherent in this study it was decided to conduct an extensive, national search and review of related research and literature. This document contains a summary of information reviewed as well as an appendices of particularly pertinent documents.

Sources consulted in this review included books related to the topic, professional journals and the following sources:

1. Abstracts of Instructional Materials in Vocational and Technical Education
2. Abstracts of Research and Related Materials in Vocational and Technical Education
3. Current Index to Journals in Education
4. Dissertation Abstracts International
5. Readers Guide to Periodical Literature
6. Research In Education

REVIEW FINDINGS

Basis and Rationale for Occupational Experience in Vocational Education

Historically, the concern for Vocational Instructor's occupational experiences and technical competence has existed since the early beginnings of vocational education in "manual arts". In 1909, the first Mississippi Valley Conference was held and two conclusions were reached:

1) The schools cannot get efficient men from the trades because these men, if they know their trades thoroughly, can get more pay in the industries than the school can offer.
2) Owing to the division of labor in the industries very few men are learning their trades thoroughly enough to become teachers in vocational schools . . .

The Fourth Yearbook of The American Vocational Education Association, "The Philosophy for Quality Vocational Education Programs", and Melvin Barlow's book, "History of Industrial Education in the United States", provide many examples of the concern of early vocational educators regarding occupational experience and its relation to instructor competence.

Passage of the Smith-Hughes Act in 1917 brought a national focus to the needs and purposes of vocational education. The act included provisions for training of vocational education teachers, with specific provision for occupational experience of those to be trained.

> SECTION 12 - Smith-Hughes Act
> Legal Obligations to the Training of Vocational Teachers
>
> That in order for a state to receive the benefits of the appropriation . . . for the training of teachers . . . of trade and industrial subjects, the State Board of such states shall provide in its plan for such training.
>
> That such training shall be given only to persons who have had adequate vocational experience in the line of work for which they are preparing as teachers, or who are acquiring such contact as a part of their training.

Basic to any study of vocational education are the "Sixteen Theorems on Vocational Education" developed by Dr. Charles A. Prosser. The implication is that a teacher cannot teach that which he does not know. Teachers who are recognized as highly competent workers themselves through actual occupational experience are indicated to be most desirable for a vocational program. Prosser stated in his seventh theorem:

> Vocational education will be effective in proportion as the instructor has had successful experience in the application of skills and knowledge to the operations and processes he undertakes to teach.

All indications are that history has run a very true course on the issue of occupational experience for vocational teachers. David Allen, again in the Fourth Yearbook of the American Vocational Education Association, comments on principles of vocational education developed by Melvin Barlow in 1963:

> Once a philosophy of education has been established, principles of instruction begin to emerge that can serve

as a basic educational document. Through the years, a number of principles specifically concerned with vocational education instruction have been established and have weathered the test of time. Principles of vocational education instruction, in many cases, can be applied to all students in a school; however, the emphasis on these principles is always directed to the end result of vocational education instruction -- successful employment in a particular occupation for which instruction has been given.

From the many principles developed by Melvin L. Barlow . . . these selected principles are recognized as valid throughout the nation:

> Instruction should be given by teachers who have had occupational experience in the subject(s) that they are teaching.

Teachers must be equipped with both practical experience and professional training to provide students with the skills, knowledge, attitudes and appreciations they will need to fulfill their occupational goals. No one would accept a football coach who had never been out on a playing field. Yet, there are some who believe vocational education instruction can be provided by teachers who have completed a number of technical school or college courses but haven't had any occupational experience in their fields. The strength of vocational education lies in the subject competency of its teachers and their desire and ability to teach. Of course, this holds true for all teachers; however, vocational education instruction is preparing students for work and the working environment of each occupation has its uniqueness -- a uniqueness that only becomes apparent to the practitioners of the occupation.

In the historic, rationale and basis for occupational experience of vocational instructors, it is expressed by all that relevant occupational experience is necessary to provide quality vocational education. However, the issues of how much experience is adequate, what quality of experience is necessary, and how recent the experience should be is not addressed.

Current Research Relative to Occupational Experience

In the search for related research it was found that the basic rationale for occupational experience has not changed markedly since the early days of vocational education, however, some new insights have been gained in recent years through limited research. To a great extent, what is required in the matter of occupational experience is still based on opinion and tradition rather than factual research findings. It was found that many authors today expound on the necessity of occupational experience for vocational educators, but that little research has been reported on it or related topics.

This section of the review is reported by research study and will identify the researcher, title of the study, source of information, date, and significant findings.

White, T.R. "The Area Vocational School: An Emerging Institution," Phi Delta Kappan, Vol. 53, No. 3, 1971.

"Teacher industry experience is a significant, positive factor in relation to student achievement."

Fiscus, Keith E. "Evaluation of Beginning Agriculture Education Teachers," Agriculture Education Magazine. Vol. 47, No. 1, July 1974.

The study conducted in Washington state, found that the highest ranked concern of administrators in evaluating beginning vo-ag teachers was "Demonstrating competence in agriculture subject matter". When beginning vo-ag teachers evaluated themselves, "Demonstrating competence in agriculture subject matter", was ranked second as a concern.

Meyer, Warren G. "Pilot Training Project, Based on Directed Occupational Experience for Teachers of Marketing and Distribution." University of Minnesota, 1967.

Participants were involved in a seven week occupational experience training project to update and extend their knowledge of occupational fields, to improve their teaching competencies and to prepare instructional materials. An improvement of score pre-test to post-test on technical competencies was reported in the study, however, no level of significance is reported.

Ellis, William G. The Relationship of Related Work Experience to Teaching Success of Beginning Business Teachers. Doctoral Dissertation, The Pennsylvania State University, 1968.

A positive correlation is reported between work experience and success of beginning high school teachers in business education. The study dealt with the factor of quantity of work experience correlated to teaching success. The level of significance of the correlation was not reported.

Orr, Ralph O. Credentialing Trade and Industrial Teachers. Doctoral Dissertation, Colorado State University, 1970.

In the fields of auto mechanics, carpentry and machine shop no significant correlations were found between scores achieved by teachers on a trade competency test and their years of trade experience.

Spaulding, Lloyd Frederic. A Study of Relationship Between Selected Characteristics of Shop and Laboratory Instructors and Student Achievement in Vocational and Technical Education. Doctoral Dissertation, North Carolina State University, Raleigh, 1971.

Results appear to show that it is not necessarily true that an instructor with extensive field experience is a better teacher than one with bare minimal experience when it comes to effective teaching in vocational or technical areas.

Lacy, Annell. "Teacher Job Satisfaction: Factor and Implication," *The Delta Pi Epsilon Journal*. Vol. 151, No. 4, Aug. 1973.

The study reported that actual hands-on office-work experience is important to the classroom effectiveness of teachers. A large percentage of the teachers which she surveyed reported that their office-work experience had enriched their teaching effectiveness; also, the office-work experience was as valuable to teaching as was their student teaching experience. Teacher training institutions and departments of certification need to look seriously at such a work experience requirement of all teachers to upgrade the profession. The 'experience opportunities' provided in a well-organized and functioning teacher education program are invaluable in broadening the VBOE teacher's spectrum of and appreciation for the profession.

Jurist, Rodney G. *An Analysis of High School Secretarial Business Education Teacher Performance*. Doctoral Dissertation, Rutgers University, 1974.

The variables of teaching experience, business work experience, age, academic attainment, and participation in in-service activities were not significantly correlated to the degree that teachers' performance could be predicted from any one or a combination of these variables.

Evans, Rupert N. *Foundations of Vocational Education*. Charles E. Merrill Publishing Co. Columbus, Ohio, 1971.

In a survey, Evans found only three states have used occupational competency examinations extensively. Even they require a number of years experience prior to taking the examination.

Brooks, Lloyd Demar. *The Relationship Between Work Experience and Teaching Effectiveness of Vocational Office Education Teachers*. Doctoral Dissertation, The University of Tennessee, 1971.

There was no significant difference in teaching effectiveness of VOE teachers categorized according to number of hours of related work experience performed.

Factors other than age, years of teaching experience, educational level attained, amounts of related work experience, and variety of related work experience account for differences in teaching effectiveness.

Until the value of work experience can be substantiated through further research, vocational office education teachers should not be required to complete hours of related work experience beyond the 2,000-hour minimum.

Delzer, Christian Lincoln. *Credentialing Technical Teachers.* Doctoral Dissertation, Colorado State University, 1972.

Major findings were: (1) Technical teachers should have three to five years work experience; (2) Related/applied teachers should have two to three years work experience.

Milan, Joseph Edward. *Comparison of Colorado Trade and Industrial Teachers*. Doctoral Dissertation, Colorado State University, 1972.

There is no significant difference between T&I teachers grouped by an evaluation score from the Official State Board Visitation Report in relation to the effect of the exposure to years of occupational work experience above the minimum required for credentialing. The results of this study indicate that the strong emphasis placed on long years of occupational experiences needs to be re-evaluated.

Covey, James W. *The Testing of Four Major Dimensions of Professional Preparation Models for the Development of Vocational-Technical Educators*. Doctoral Dissertation, University of Wisconsin, 1973.

It was determined that the respondents of this study strongly supported the concept that occupational experience is important in the preparation of a vocational-technical educator. By service areas, it was determined that the respondents favored the following requirements in occupational experience; agriculture educators one or two years of experience, business education educators one or two years of experience, distributive education two, three, or five years of experience; health occupations educators two or three years of experience. Technical education educators two or three years of experience; trade and industry education educators three, four, or five years of experience.

Stitt, Thomas, R. "Structural Occupational Internship for Experienced Vocational Teachers." Department of Agriculture Industries, Southern Illinois University, 1970.

Participants reported statistically significant increases in competency levels in 5 of the 11 units of 'General' agriculture. The five included Orientation, Career Opportunities, Agriculture Salesmanship, Business Structure and Procedure, and Sales and Service . . . Curriculum changes were evident as a result of this improved competence.

Weatherford, John Wilson. Identification and Analysis of Issues in Distributive Education. South-Western Publishing Co., Cincinnati, Ohio, 1974.

In a national survey 47 percent of the D.E. leaders responding agreed that teacher-coordinators should be required to renew (or supplement) their occupational experience every three to five years.

Ertel, Harry C. An Analysis of Business and Office Contacts With Business, Industry, and Government. Doctoral Dissertation, University of Cincinnati, 1974.

This study concluded: Recent contact could, in general, be indicative of exposure to the current office systems and procedures and updated equipment. Such exposure is indeed necessary for the VBOE teacher to improve classroom effectiveness, to build relevant program content, and to be knowledgeable in current equipment usage.

This frequency of contact could, in general, motivate the teachers to evaluate their instruction and classroom procedures and to provide enriched and office-oriented experiences for their students.

Concerns For The Future of Occupational Experience

The two areas of concern for the future relative to occupational experience for vocational teachers seem to center on the issues of certification and competency based education.

While a great deal has been written it is apparent from the findings of recent research that there is no conclusive evidence to support or reject any facet of occupational experience for vocational teachers.

Implications of Teacher Certification

In studies and surveys conducted to determine what occupational experience is currently required for certification, the following study summary for the T&I area conducted in 1974 by Merwyn Klehm is typical.

> In terms of the occupational experience for the initial certificate for T&I teachers two states reported one year; three state administrators reported two years; nine indicated three years; three, four years; six, five years; seven, six years; one for seven years; and one for eight years. The mean is four and two-tenths years of occupational experience.

Jerome Moss in his book, "Changing the Role of Vocational Teacher Education", very appropriately summed the current situation with regard to occupational experience requirements for certification.

> Present certification requirements provide no realistic guide. Not only are they not keyed to predicted role expectations, but the requirements are so varied with in and between vocational fields that they flaunt our indecision. In some instances, certification standards are so low or so irrelevant as to probably harm teachers and students and severely limit class activity.

Implications of Competency Based Teacher Education

It became evident to this writer that Competencey Based Teacher Education (CBTE) and related teacher certification practices hold major implication for occupational experience practice. The literature indicated that full implementation of the CBTE and related certification process would greatly enhance the prominence of subject matter competence in the total process of teacher preparation. Much work has been completed nationally toward implementation of CBTE.

In reviewing current thinking on the issue of CBTE and occupational experience the vast majority of vocational educators are putting up caution signs saying, we need more research before we make a total commitment to CBTE. The idea of replacing occupational experience with competency testing is meeting opposition throughout current literature. Most vocational educators apparently have more confidence in occupational experience requirements than in tests designed to measure competencies.

Conclusion

From the review of literature this writer concluded that historically strong emphasis had been placed on occupational experience as a criteria in vocational teacher development. Quality research has not tended to support increased amounts of occupational experience, though vocational teacher opinion of the value of occupational experience, appeared very high. Considerable variation existed among states and between service areas in required amounts of occupational experience. Recency of occupational experience was supported as valuable by research findings, though correlations between recency and competence lacked consistent strength. Competency based teacher education and related evaluation and certification procedures indicated increased emphasis of occupational competence of vocational education teachers. Increased use of structured occupational experiences for both pre-service and in-service teacher education programs are likely in the future.

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DEVELOPING INSERVICE PROGRAMS-

Based On Teacher Competency

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Occupational educators generally agree that inservice education is not only valuable but necessary. Preservice preparation of the occupational educator is rarely, if ever, ideal; social and educational change results in some professional practices being relatively ineffective, if not obsolete, in a short period of time. Other factors such as bolstered morale, a forum for the exchange of ideas with colleagues, etc. argue for an inservice program that will keep the teacher abreast with today's explosive developments in substance and teaching technology. Irregardless of the merits of an inservice program, many institutions have a captive audience due to certification requirements, occupational teachers' interest in securing graduate degrees, etc. Our job as teacher educators should not be one of simply developing an inservice program that attracts participants, but that of developing the inservice program most needed to improve the performance ability of occupational teachers.

Historically, the determination of inservice education requirements has been a cooperative effort of teachers, state education department personnel, and teacher educators. I believe in this tripartite effort, but I also argue for a more effective means of allowing the individual teacher to express his personal needs. At Cornell, we're utilizing the Professional Improvement Committee of the Association of Teachers of Agriculture in New York (ATANY) as a vehicle through which all teachers of agriculture can express their need for inservice courses or programs. The principle disadvantage of this method of inservice needs identification is the inability to ascertain desired course content. If 20 teachers indicate a need for a course entitled 'Leadership in Occupational Youth Organizations,' it's safe to wager that their depth of experience and training in organizing and leading youth organizations spans a wide spectrum. How does the teacher educator cover the basics without being redundant? How does he cover new and innovative developments without overwhelming the lesser trained and experienced teacher? He obviously can't completely eliminate the basics nor can he afford to ignore the new and innovative; what is needed is a procedure that will allow the teacher educator to ascertain the content that should be built in a course prior to final planning and development of the course.

Allowing the teacher educator to know the competencies of individual occupational teachers who will participate in a course or program is the proposition inservice educators should consider. The Cornell Agricultural and Occupational Education Division is addressing this problem by attempting to develop a model (professional competencies only at this time) to more precisely identify inservice needs. Basically, the model is concerned with the occupational teacher's ability to identify his own performance capabilities.

The proposed model will be developed and tested as follows:

Step 1: Development of a form containing the performance elements (skills, tasks, competencies) of the occupational teacher's professional role.

Step 2: Administration of the form to secondary level occupational teachers to determine their perceived performance level on each performance element as well as the importance of each performance element to the teacher in his professional role.

Step 3: Occupational education experts will then rate the observed performance level of the secondary level occupational teachers.

Step 4: The analysis will include a comparison of the occupational teacher's perceived performance level appraisal with the performance level as rated by the knowledgeable occupational educator who observes the teacher's performance. In effect, an attempt is being made to indirectly rate the teacher's performance ability on all of these professional performance elements associated with secondary level occupational education.

Step 5: Inservice education programs will be based on the occupational teachers performance ability (lack of) in conjunction with consideration for the importance of each performance element to each individual teacher.

If this method of determining inservice needs proves valid and reliable, the inservice educator will be able to turn to his prospective students when he asks such questions as 'What courses should we teach?', 'What content should be included/excluded from this course?'. The students answers would be based, not on what the student thinks he would like to take, but, on what the student needs to improve his performance in his local situation.

OCCUPATIONAL EXPERIENCE - A BUSINESS TEACHER'S ASSET

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If someone were to ask me what was the most important contributing factor to my first year as a business teacher, I would definitely have to answer occupational experience. One might paraphrase a dictionary definition of occupational experience as being a business, employment, or vocation which occupies one's time and an activity which includes training, observation of practice, and personal participation.

Importance of occupational experience. After having worked about five years full time and over a period of five years part time, I feel that work experience itself has contributed positively in many phases of my career as a business teacher. Perhaps if you have taught for a year, or even many years, without having occupational experience, you may feel that your teaching has been satisfactory without actual on-the-job training. My contention is not that teaching without on-the-job experience is less satisfactory than teaching with job experience, but that this experience can contribute much to the teaching.

Teacher confidence. Probably one of the most important traits for a beginning teacher is to express and reflect personal confidence in his teaching area. What greater assurance could a business teacher have in presenting subjects and developing skill in clerical areas than to have participated in office routine, handled telephone calls, and taken dictation? Just the fact that many companies operate in distinctly different, as well as similar, ways necessitates that the teacher have an overall understanding and knowledge of the versatility of employable skills.

Student confidence. From the viewpoint of the students, a teacher who "seems to know what he is talking about" helps them progress from the learning phase of skill and technique to a thinking attitude of productivity based on someone's actual experience. They realize that their teacher has probably participated in some if not most of the business areas discussed and speaks with facts rather than theoretical situations. After my first full year of teaching, I asked my office practice and advanced shorthand students to fill out evaluation sheets for each course. In both instances there were many comments to the fact that the personal work experience examples and situations discussed had made the class more interesting, realistic, and encouraging to the students.

Student teachers. In my first year of teaching, I came in contact with two business education student teachers - each for approximately one semester. The first had worked part time in a general office situation. She mentioned that she felt her limited, yet very practical, experience of one summer's work as a secretary had definitely helped her relate to her classes in realistic terms. She also had plans for returning to the same company for additional work experience the following summer. The second student teacher had no occupational experience whatever, and she mentioned that she definitely felt lost because of her inability to give concrete examples or tell of personal, firsthand experience in her business classes.

Perhaps at this point you agree and say, "Fine, I believe occupational experience is important, but as a full-time college student, how do I obtain it?" Probably the simplest way would be to work part time during summers. It is true that some other occupations might provide more dollar value compared with a beginning or general office clerk, but the work experience must be considered in its light of contributing to the importance of your future career. Second, a part-time position is sometimes possible after school during the school year for a few hours a day in a local business or professional offices in the area. Some educational institutions have positions open for students to work part time while completing their education, with tuition compensation for employment. Last, a university sponsored internship program wherein a student can work in actual job-related experiences while receiving credit and monetary compensation may be available.

In addition to initial occupational experience prior to teaching, it is especially important for the business teacher to keep up with the changes in the office. Visits to local businesses can be made to see what type of new equipment is being used and the qualifications necessary for potential employees. Eventually, a retraining or brush-up work experience might be necessary for the business teacher as years accumulate and the business experiences of the past become outdated with time and innovation.

Statistically, it may be shown that occupational experience is not necessary to be a satisfactory business teacher, but there should exist a personal motivation to be the best teacher rather than something less. In teaching business, I feel that this necessitates practical experience on the job. The satisfaction of helping your students reach their occupational goals will be so much greater in knowing that you have passed that way once yourself.

THE TRADE AND INDUSTRIAL EDUCATION TEACHER'S BACKGROUND, VALUES, AND ATTITUDE TOWARD TEACHING

by
Curtis R. Finch

In recent years, the educational community has become increasingly concerned about the teacher's role in promoting and stimulating learning. This concern has resulted in the identification and subsequent investigation of specific areas such as teacher characteristics, preparation, and behavior in the classroom. Research in each of these fields has made a significant contribution to the discovery of new knowledge about teaching.

Specific interest in the teacher's personal attributes and the ways which they relate to the teaching environment has resulted in a proliferation of studies. Using the time period from 1950 to 1962, Getzels and Jackson (1963) identified more than 800 references related to teacher personality and characteristics. Wilk, et. al. (1967) cited numerous investigations which more clearly identify some of the prospective teacher's personal characteristics.

Unfortunately, very few of the teacher characteristics studies which have been conducted seem relevant to trade and industrial teacher education. The prime reason for lack of relevance is that samples have usually been taken from a population of teachers with college degrees and little, if any, industrial experience. In direct contrast, the trade and industrial teacher typically has many years of occupational experience and holds no college degree.

Two investigations, however, which do examine some personal characteristics of trade and industrial teachers are those reported by Bowman (1966) and the Ohio Trade and Industrial Education Services (1965). Bowman's study concluded that vocational teachers were significantly more authoritarian than academic teachers as measured by the Minnesota Teacher Attitude Inventory (MTAI). The author did concede that the number of subjects was exceptionally small and that "the vocational teachers exhibited a higher education level than would be typical of most vocational teachers". An additional limitation of the Bowman study in its applicability to trade and industrial teacher education is the fact that the vocational group included "shop, technical, industrial arts teachers, and coordinating and supervising personnel" (Bowman, 1966, p. 52).

The Ohio study was designed to evaluate instruction and learning in Ohio's trade and industrial education programs. A portion of the investigation placed specific emphasis on self perceptions and behavior characteristics of trade and industrial education teachers. The Opinion Attitude and Interest Survey (OAIS) was used to measure self perceptions of 328 teachers. Results showed that the teacher group attained a high achievement personality score and a somewhat lower intellectual quality score. This indicated possession of a driving force to succeed which was well above average. Creative personality score was relatively low for the group. It was additionally concluded that teacher age, grade level completed, teaching experience, social score, and emotional score on the OAIS were not significantly related to teaching program quality as measured by degree of student achievement on the Ohio Trade and Industrial Education Achievement Test (Ohio Trade and Industrial Education Services, 1966). The latter conclusions were only specified for auto mechanics and machine shop teachers.

The paucity of research having direct bearing on trade and industrial teacher characteristics is obvious. We cannot assume, however, that an absence of pertinent data about the teacher reflects a lack of need for attribute identification. Within the broad framework of trade and industrial teacher education, teacher variables must be isolated and their uniqueness ascertained. Additionally, thought should be given to possible interrelations which may exist between these particular variables. Outcomes of such research might include the clarification of commonality between teacher personality and behavior or the identification of teacher selection criteria. It is within this broad context that the present study has been conducted.

Purpose

This investigation is one in a continuing series of research activities which focus on the trade and industrial teacher education process. The exploratory effort has been designed to identify personal attributes of individuals which may be sensitive to change as a result of formal teacher education experiences.

The first step in the attribute identification problem was to obtain an in-depth profile of a selected group of in-service vocational industrial teachers. In addition to biographical data, such as extent and type of occupational experience and extent of formal education (both professional and general), normative data concerning personal and interpersonal values and attitude toward teaching were collected. Correlational analyses between and among the biographical variables, the personal value traits, the interpersonal value factors, and attitudes toward teaching were made to determine the amount of identifiable common variance among the measures.

The design of a long-range research plan in the field of trade and industrial teacher education has been developed in such a way that, from the findings of one study, other more narrowly defined investigations may proceed (Impelletteri and Finch, 1968). The current study is visualized as basic to many other studies which are to follow, each of which may have an important impact on current knowledge of the trade and industrial teacher education process. The specific purposes of this study were:

1. To determine the background, personal values, interpersonal values, and attitude toward teaching of a group of in-service trade and industrial education teachers.

2. To examine relationships which exist between the teachers' backgrounds, personal and interpersonal values, and attitudes toward teaching.

Subjects

The subjects involved in this study were participants in four Summer workshops conducted by the Department of Vocational Education at Penn State. The group was comprised of seventy six in-service teachers representing machine shop, drafting, electronics, and graphic arts areas. Table 1 pre-biographical data considered to be related to teaching.

TABLE I

Subgroup and total group means for biographical variables related to teaching.

	Machine Shop (n=27)	Drafting (n=12)	Electronics (n=30)	Graphic Arts (n=7)	Total (n=76)
Age in years	42.0	40.3	44.5	42.7	42.8
Years of occupational experience	15.5	10.4	14.5	13.6	14.1
Years since last worked in occupation	3.4	4.2	5.5	5.3	4.6
Years of teaching experience	4.4	7.4	9.5	9.7	7.4
Years worked on teacher certificate	7.6	7.0	10.0	11.0	8.7
Undergraduate V[a] credits	27.3	28.1	30.6	34.0	29.4
Undergraduate credits except V[a]	35.7	81.7	52.5	24.4	48.6
Graduate credits	2.1	14.9	3.3	2.3	4.6

[a] Professional trade and industrial education credits.

Procedure

In order to obtain necessary data, selected instruments were administered to the teacher group. Biographical, value, and attitudinal measures consisted of the following:

1. The Participant Information Form was used to gather biographical information about the workshop participants.

2. The Minnesota Teacher Attitude Inventory (MTAI) has been designed to measure those attitudes of a teacher which predict how well he will

get along with pupils in interpersonal relationships and, indirectly, how satisfied he will be with teaching as a vocation (Cook, Leeds, and Callis, 1951).

3. The Study of Values measures the relative prominence of six basic interests or motives of personality: the theoretical, economic, aesthetic, social, political and religious (Alport, Vernon, and Lindsey, 1960).

4. The Survey of Interpersonal Values is designed to measure certain critical values involving the individual's relationship to other people and their relationships to him. The values are considered important in the individual's personal, social, marital, and occupational adjustment. The six values measured are: Support (S); Conformity (C); Recognition (R); Independence (I); Benevolence (B); and Leadership (L); (Gordon, 1960).

5. The Vocational Industrial Teacher Attitude Scale (VITAS) is an instrument currently under development by the research staff at Penn State University. The scale is designed to measure an individual's perception of his role as a teacher.

Implications

An initial purpose of this investigation was to determine the in-service trade and industrial teacher's background, personal values, interpersonal values and attitude toward teaching. Identification of these variables was accomplished through the administration of standardized evaluation instruments and an information form.

An analysis of biographical information about the group showed that the trade and industrial teacher has considerably more occupational experience and less professional preparation than would be typically expected of an "academic" teacher. The identified variation in teacher background implies that caution should be exercised when research findings are generalized from one teacher group to another. Exposure to certain unique experiences may have far reaching effects on one's behavior.

Trade and industrial teachers who had accumulated more general undergraduate credits did not seem to affect attitude toward teaching. Although no causal relationships can be made, general college course work may have some bearing on the development of a more positive attitude toward teaching. Exposure to trade and industrial teacher education courses, however, does not seem to influence one's attitude toward teaching; at least as measured by the MTAI.

For the most part, teacher's personal and interpersonal values seem to identify with the tradesman or technician rather than the teacher. It might be that although the individual has moved on to his "second career," he still retains many of the personal attributes identified with his former occupation. Contrasting social values scores between this group and the group of teachers reported by McLean, et.al. (1955) might well relate back to initial occupational choice. Assuming a stability of social values, the trade and industrial teacher's choice to enter the field of machine shop, drafting, electronics, or graphic arts may have been based, in part, upon a compatability of values. His eventual gravitation to the teaching profession might have been paritally influenced by values which were related to education (i.e., benevolence).

It appears that many of the trade and industrial teacher's personal attributes are not related to his attitude toward teaching. The low correlation between variables indicate that teacher characteristics which were examined may not serve as valid indicators of teacher attitude. A lack of significant relationships between variables does, however, give increased confidence that they are independent of each other. The extreme independence indicates that some of the instruments used in this study may be potential measures of unique teacher attributes.

The results of this study strongly suggest that the trade and industrial teacher is an atypical individual. Certain of his personal and interpersonal values are not representative of the general population. It may also be that these values are quite stable with regard to occupational and educational involvement.

Further investigations, utilizing the results of this study, may uncover more specific conclusions about relationships between the trade and industrial teacher's personal attributes and his attitude toward teaching. For the present, however, it seems that few of these relationships are very strong.

DOCUMENT RESUME

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IDENTIFIERS	Illinois

ABSTRACT

A survey was made of Illinois Vocational education personnel in six high schools, six area vocational centers, and three junior colleges to review the qualifications, needs, difficulties, and working conditions of vocational education personnel and to assess ways in which other educational agencies might assist in upgrading the qualifications of vocational education personnel in occupational programs. Data were collected using two questionnaires. One questionnaire, which was completed by each school's vocational education director, sought information about certification, length of tenure, teaching, counseling, administrative, and service responsibilities, while the second questionnaire, which was completed by teachers, counselors, and directors, yielded information on educational background, occupational experience, education and guidance courses, and needs and difficulties encountered in acquiring additional credit in occupational experience. Usable return from 339 of the 359 respondents revealed that (1) Traditional salary schedules were not

constructed to reward productivity, (2) Occupational experience was viewed by administrators as being extremely important for an occupational teacher, (3) There was a trend for the high school to look to the area vocational center to assume much of the responsibility of providing occupational training, and (4) The vocational education personnel were mainly interested in vocational guidance, curriculum building, and technical courses.

II. OCCUPATIONAL EXPERIENCE OF VOCATIONAL EDUCATION PERSONNEL: QUALIFICATIONS BEING EVALUATED; PERSONS RESPONSIBLE FOR EVALUATION; EVALUATION METHODS; AND FREQUENCY OF EVALUATIONS.

Guidelines stating minimum qualifications of vocational occupational teachers, counselors and directors recommended 2,000hours of occupational experience. This would be equivalent to one year (50 weeks of 40 hours each and two weeks of vacation time). With this guideline in mind, 3.4 percent of the teachers, 10.5 percent of the counselors and 7.1 percent of the directors met the minimum amount of occupational experience recommended, Table 12. Nearly, 80 percent of the teachers, 62 percent of the counselors and 93 percent of the directors exceeded the minimum. This study found that 11.7 percent of the teachers and 31.6 percent of the counselors had no occupational experience.

The subjects in this study were requested to indicate the level of responsibility they had during their occupational experience. They were then placed in one of the following categories: laborer, owner-operator, manager-supervisor, or other. Laborer had no management or supervisory responsibility. Owner-operator usually had some employee to supervise. The manager-supervisor operated a business or some phase of a business and supervised employees for the owners. The "other" category was included for those who did not fit conveniently into the other classes. A typical example was a consultant or an attorney.

TABLE 12

YEARS OF OCCUPATIONAL EXPERIENCE FOR TEACHER, COUNSELORS, AND DIRECTORS OF OCCUPATIONAL PROGRAMS

Years	Teachers		Counselors		Directors	
	N	%	N	%	N	%
None	36	11.7	6	31.6	0	--
1	26	8.4	2	10.5	1	7.1
2	50	16.2	2	10.5	6	42.9
3	21	6.8	2	10.5	0	--
4	25	8.1	0	---	0	--
5	22	7.1	0	---	2	14.3
6-10	60	19.4	3	15.8	2	14.3
11-20	55	17.8	3	15.8	2	14.3
over 20	14	4.5	1	5.5	1	7.1
Total	309	100.0	19	99.9	14	100.0

Table 13 indicated that 48.8 percent of the teachers, 40 percent of the counselors and 60 percent of the directors of high school occupational programs gained their occupational experience as laborers. For area vocational centers, 40.9 percent of the teacher, 16.7 percent of the counselors and 33.3 percent of the directors were laborers in their occupational experience. Many junior college personnel received their occupational experience as laborers. Many subjects reported that they received their occupational experience working as laborers on a part-time basis, usually in summer employment.

Management and supervisory positions accounted for 22.8 percent of the teachers, 10 percent of the counselors and 0 percent of the directors of high school occupational programs. A larger percentage of the teachers, counselors and directors in area vocational centers and junior colleges had management or supervisory positions in their occupational work experience.

EVALUATION OF QUALIFICATIONS

The evaluation of vocational education personnel's qualifications was observed to be most active during the initial hiring process. The following criteria were given for selecting and promoting occupational personnel (the number of observations for each criteria item appears in the parentheses following the item):

--Educational Training (4)

--Experience (4)

--Present employee of the school system (3)

--Personal references (2)

--Performance (2)

--None (2)

--Certification (1)

--Employment record (1)

--Interest and attitude toward vocational education (1)

--Success (1)

--Working and teaching relationships with vocational students (1)

SUMMARY COMMENTS

It is conceivable that many types of occupational experiences add little to an employee's bank of occupational skills that will help him in his professional career. Further, the level of responsibility an employee had in his occupational experience can be misleading. The real educational worth of occupational experience is the applicability of the skills learned to the person's present teaching area.

The value of occupational experience can never be known until governing boards, vocational people and the clientele they serve agree on occupational goals. Further, the goals must be in quantifiable terms which lend themselves to measurement. At this point competencies which lead to goal attainment can be identified and occupational experiences selected which will produce these competencies.

In the evaluation of vocational personnel for selection, promotion and salary increases, only two schools mentioned performance. Productivity was suggested by one director as an area in which his school should be giving consideration. The most just way of dealing with vocational personnel and the taxpayers would be to base promotions and salaries on productivity. The problem is that education at all levels has never really come to grips with this knotty problem. The solution to this problem is a must.

FORMAL EDUCATION VS OCCUPATIONAL EXPERIENCE

There is a trend toward hiring people with occupational experience to teach in occupational programs. Administrators express the wish that they would like to hire degree people who have the skills necessary to effectively teach occupational courses, but as one person stated, "It is very difficult to hire a young person who has a master's degree and any valuable occupational experience". There is a trend in junior colleges to make use of para-professionals in occupational programs. These people work with a fully trained teacher in many instances, in others they are completely responsible for the teaching process.

FINDINGS

1. It was found that traditional salary schedules were not constructed to reward productivity.
2. To evaluate vocational education personnel's qualifications for selection and promotion purposes the following criteria were mentioned most frequently: a) educational training, b) experience and c) whether or not the candidate was a present employee of the school system.
3. Personnel presently employed by schools were considered first in filling new teaching and administrative positions.
4. Salary schedules were the principal means of evaluating vocational education personnel for salary increases.
5. Schools offering occupational programs modified their salary schedules, in various ways, to recognize the occupational experience of vocational personnel.

6. Occupational experience was viewed by administrators as being extremely important for an occupational teacher. As a result, there was a trend in area vocational centers and junior colleges to hire non-degree personnel as teachers of occupational courses.

7. There was a trend for the high school to look to the area vocational center to assume much of the responsibility of providing occupational training.

WORK EXPERIENCE FOR PROSPECTIVE AND IN-SERVICE BUSINESS EDUCATION TEACHERS

by
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At no other time in the history of the business education discipline has so much thought been devoted to the nature programs which should be developed to prepare teachers for the variety of challenges facing them in the business education classrooms across the country. The subject of the nature and amount of work experience that should be required is one of the major concerns to those responsible for preparing these teachers. The idea of work experience for business education teachers is as old as the profession itself since most of the early business teachers in this country had work experience as their only credential for obtaining a teaching position.

When analyzing the problem concerning the nature and amount of work experience that should be required for prospective and in-service business education teachers at the secondary level, the following questions come to mind:

1. What specific evidence is there to support the contention that work experience should be an integral part of the preparation of business teachers?
2. What kinds of work experience are most beneficial for business teachers?
3. What should be the length of work experience programs for business teachers?

4. Should business teacher education programs include work experience as a requirement for graduation at both the undergraduate and graduate levels?

5. Should work experience be required for the certification of both vocational and nonvocational business teachers at the high school level?

6. Should work experience be required at various intervals for in-service business education teachers in order to maintain certification?

The primary purpose of this article, then, is to discuss the previous questions about work experience for business education teachers.

THE JUSTIFICATION FOR WORK EXPERIENCE

In reviewing the literature of the past forty years, frequent references are found concerning the lack of evidence to support the value of work experience programs for business teachers. During the same period, numerous statements made by leading business educators, conclusions arrived at by researchers, and beliefs expressed by scores of classroom teachers support the contention that work experience is valuable and that it should be a part of the preparation of all business teachers. Business teachers who taught for several years before acquiring business experience are perhaps the best sources of information for determining the real worth of such experience. These teachers have witnessed the immediate benefits of work experience programs and are among the strongest supporters of such programs.

Frederick G. Nichols, the father of business education, writing in the Eastern Commercial Teachers Yearbook in 1930 made the following statement about work experience for business teachers:

> Business experience is an essential part of commercial teacher education training. The organizer must provide for it, and the administrator must maintain conditions that assure it. The kind of experience is more important than the amount of time devoted to it. . . . Commercial teachers must know office conditions, the demands made upon office workers, and the methods of procedure in most common use. Occupational competency in a chosen job, proved by actual experience, will contribute greatly to a teacher's effectiveness as a trainer of office workers.[1]

Writing twenty-three years later, Nichols was still convinced that work experience is an essential part of the business teacher's preparation.

> I, for one, firmly believe that work experience of the right sort, under the right conditions, by the right teachers and trainees does result in understanding of working conditions which can be acquired in no other way.[2]

In 1961, the National Conference on Office Education which was sponsored by the Division of Vocational Education stressed the importance of work experience for secretarial teachers.

> State departments of education should require that prospective teachers of office education have work experience as part of their training. . . . Work experience for college credit could be offered on either the undergraduate or graduate level . . . Office experience is highly desirable for adequate content presentation in the classroom. . . .[3]

A doctoral dissertation written in 1968 indicates that there is a positive correlation between work experience and the success of beginning high school business teachers.

> The major findings of the study showed that (a) business teachers with related work experience were given significantly higher ratings of teaching success by their supervisors than were business teachers without related work experience, (b) business teachers with more than one year of related work experience were not given significantly higher ratings of teaching success than were business teachers with one year or less of related work experience, and (c) 98 percent of all the business teachers participating in the study recommended related work experience for all business teachers.[4]

When the teachers who responded in the affirmative were asked why they recommended work experience for business teachers, approximately 90 percent indicated that it provides realistic examples which can be used by the beginning business teacher to illustrate subject matter material. Eighty-five percent of the teacher thought that work experience provides a beginning business teacher with a more thorough understanding of business requirements and conditions. More than 80 percent of the participants in the study believed that related work experience gives the beginning business teacher a broader background and a greater comprehension of the world of work. Participants in the study also believed that related work experience helps the beginning business teacher establish significant contacts with business, gives him an opportunity to work with people who have multifarious backgrounds, and provides him with an opportunity to try out his skills in an actual work situation.

Two of the most authoritative statements on the subject of work experience for business teachers are found in the Proposed Guidelines for Business Teacher Education prepared by the National Association for Business Teacher Education. Guidelines 4 and G-3 stress the need for incorporating work experience in business teacher education programs for prospective and in-service business teachers.

> Guideline No. 4: Through course work and supervised relevant work experience, the instructional program for prospective business teacher includes provisions for developing high level competency in the business occupations for which they will be preparing their students.
>
> Guideline No. G-3: Advanced programs in business education include appropriate opportunities for direct and/or simulated experiences which relate specifically to the professional goals of each candidate. These experiences may be provided through such means as teaching-learning laboratories, clinical laboratories, practicums, assistantships, teaching associateships,

> internships, related work experiences, and other planned activities.

Work experience has become a generally accepted requirement for both graduation from college and teacher certification for vocational business education teachers, and many teacher education programs require work experience for nonvocational business teachers. The importance of requiring work experience for all business teachers was stressed by Vaughn in 1969 when he said:

> . . . the Vocational Education Act of 1963 has placed the importance of work experience in high esteem. Teachers in Federally reimbursed programs are required to have work experience, but it is desirable that all business teachers gain business and office experience even though they may not be participating in these reimbursed programs . . .

WORK EXPERIENCE FOR PROSPECTIVE BUSINESS EDUCATION TEACHERS

In discussing the overhauling of business teacher education programs in a recent articles, Guthrie emphasized the need for work experience for all prospective business teachers and made some recommendations concerning the length of work experience programs.

> For many years, we have been saying that every business teacher should have actual work experience in his teaching area. In distributive education and in cooperative office education this requirement has been implemented. In most cases it has not been possible to require work experience because there has been a shortage of business teachers. When the supply of business teachers exceeds the demand, actual work experience should be required for all future business teachers.
>
> Even before the supply of business teachers becomes adequate, future business teachers should be required to have simulated laboratory business experiences and actual business experiences. The actual business experiences can be acquired in the summer or during the school year. A specialized amount

> of actual business experience should be part of the graduation requirements of all business teachers. The minimum business experience should be several months of full-time employment. If this is impossible, we should at least require one-thousand hours of part-time employment.[7]

The Alpha Psi Chapter of Pi Omega Pi conducted a survey of state supervisors of business education concerning work experience requirements for general secondary business education and secondary vocational business education teachers for the academic year 1967-68.[8] Of the 39 state supervisors responding to the question concerning work experience requirements for general secondary business education teachers, only 4 indicated their states require such work experience. With 40 state supervisors responding to the question concerning work experience requirements for secondary vocational business education teacher, 34 said their states require work experience; 6 states do not.

The amount of work experience required for secondary vocational business education teachers varies considerably among states. With 40 state supervisors of business education responding to the Pi Omega Pi questionnaire, it was found that the work experience requirement ranges from one to three years and from 480 to 4,000 clock-hours. The work experience requirement if one year in 11 states, one or two years in one state, and two or more years in eight states. In those states that require work experience in terms of clock-hours, 2,000 clock-hours are required in seven staes, and over 2,000 clock-hours are required in four states.

Ellis wrestled with this question of how much work experience a beginning business teacher should have to teach successfully when he wrote his doctoral dissertation in 1968. He divided the beginning business teachers participating in his study into two subgroups according to the amount of related work experience they had had in order to determine whether or not there was a significant difference in the ratings of teaching success assigned the two subgroups by their supervisors. The teachers with more than one year of related work experience (the mean number of weeks of experience was 204) were placed in one subgroup and the teachers with one year or less of related work experience (the mean number of weeks of experience was 35) were placed in the other subgroup. The difference in the ratings of the two subgroups by the supervisors was not found to be significant.[9]

The following statements were made by Ellis in an article written in 1969 about the conclusions arrived at in his doctoral dissertation:

> While a number of specific questions remain unanswered concerning the exact types of experiences, the time in a teacher's preparation when these experiences will be most meaningful, and the duration of the experiences, there appears to be little doubt that every business teacher can benefit from some work experience which is directly related to the subject matter that he is teaching. While the evidence seems to indicate that the most desirable experiences occur when they are conducted under college supervision, it is also apparent that unsupervised experiences can contribute to the development of a future teacher.
>
> It is the recommendation of this author that every business teacher secure at least ten weeks of full-time work experience before he begins his teaching career and that additional and varied related work experience should be secured at reasonable intervals throughout the business teacher's teaching career.[10]

SAMPLE WORK EXPERIENCE PROGRAM FOR PROSPECTIVE BUSINESS TEACHERS

Colleges and universities are using several approaches in providing work experience programs for prospective business education teachers. A survey of the course offerings published in the April and May 1970 issues of The Balance Sheet indicated that 30 courses designed to provide work experience for business teachers were offered by 25 colleges and universities during the summer of 1970.

At Bowling Green State University, for example, prospective business education teachers with a comprehensive major are required to complete the work experience program entitled "Internship in Business Education". The duties which the students are expected to perform include filing, typing, shorthand, duplicating, and other general office work. The course requires 40 clock-hours of work for each quarter-hour of college credit and may be repeated to three hours. No more than one hour of credit may be earned in any one office.

At least 40 clock-hours of work experience must be obtained under the supervision of the business education department. Up to 80 clock-hours of work experience may be waived if the student has completed at least 40 clock-hours in two separate office positions. The waivers must be bona fide office experiences verified and approved by the department.

The work stations are selected by the students. The instructor has the responsibility for approving work stations for credit, visiting the work stations to determine the quality of training, convening the class as a group at any time for the purpose of instruction, assigning projects in addition to those of the work stations, and assigning the final grade. The final grade is based on the preparation of an office manual (a notebook describing the activities performed in the office where the student worked), periodic evaluations by the instructor and the student's immediate supervisor, and a final evaluation by the instructor.

WORK EXPERIENCE FOR IN-SERVICE BUSINESS EDUCATION TEACHERS

Although current trends in business teacher education seem to indicate a movement toward five-year programs which will include work experience and a higher degree of specialization in business education, the rapidly changing business environment will require appropriate work experience opportunities for in-service business education teachers at appropriate intervals throughout their teaching careers.

The nature and importance of work experience programs for in-service business education teachers was discussed by Vaughn:

> In many business firms the office procedures are continually changing in response to technological forces. Thus, it is vital that the business teacher, by one means or another, continuously update and extend his knowledge of these procedures. This betterment can be accomplished by business teachers either through full-time work experience in office situations or through summer office experience. Other alternatives include after-school and Saturday employment during the school year or through a university that provides some type of directed occupational experience. It is desirable that the work experience be recent enough to enable the teacher-coordinator to be familiar with current procedures . . .[11]

A plan that has worked rather well in providing work experience for in-service business education teachers in Bucks County, Pennsylvania is called Directed Observation of Elementary Office Positions. It requires only one week of the teachers' time, provides an opportunity to observe and examine work procedures, provides interviews with beginning workers, provides an opportunity to hear businessmen and office workers critically analyze high school business education programs, offers an opportunity to obtain guidance information for students interested in office occupations, and provides public relations and job placement contacts with businessmen.

The one-week program opens with an orientation session for the teachers on Monday morning, and in the afternoon each teacher has a public relations tour of the company to which he has been assigned. The teacher is involved with six departments of the company which employs elementary clerical workers in substantial numbers. Tuesday, Wednesday, and Thursday are divided into morning and afternoon sessions so that the teachers may examine one department during each of the six time periods. Summary and evaluation sessions are held on Friday morning, and representatives of the participating companies give the teachers a businessman's view of high school business education in the afternoon.[12]

In an effort to help both prospective and in-service business education teachers obtain related work experience, Western Illinois University offers a course entitled Directed Occupational Experience I and II which is available to juniors, seniors, and graduate students. The course carries four quarter-hours of credit and may be repeated for an additional four hours. Participants in the course are expected to obtain their own jobs (jobs may be on or off campus), which must be approved by the instructor before credit is granted. Each student is visited periodically by the instructor and is encouraged to picture his own job and the jobs of his co-workers in relation to the total organizational structure. Students are required to analyze their duties and responsibilities in a written report prior to presenting their findings in the class seminar which meets twice a week. Problems related to high school vocational office and distributive education programs form the basis for in-class instruction.

In order to update work experience, the University plans to offer the course exclusively to graduate students during the summer. If the course is offered, students will meet on campus for one week, work for six weeks in an approved position in various sections of the state, and return to campus for a one-week seminar. In-service teachers will thus have an opportunity to obtain work experience, receive graduate credit, and earn a salary.[13]

CONCLUSIONS

Work experience programs have now become an established part of the preparation of prospective vocational business education teachers, and evidence is mounting to support the inclusion of work experience as a part of the preparation of all business education teachers-vocational and nonvocational.

Although a variety of work experience programs have been developed for prospective business education teachers, research efforts should be continued to determine the desirability and length of present programs and to develop entirely new programs. It is generally agreed by business educators that work experience should be closely related to the jobs for which teachers will be preparing students and that it should be carefully supervised.

Present work experience programs for prospective business education teachers vary from 120 to 4,000 clock-hours and from ten weeks to three years. A minimum of ten weeks of full-time related work experience, carefully supervised, is recommended as a requirement for graduation and teacher certification for all prospective business education teachers.

The nature and amount of work experience needed by in-service business education teachers is dependent on the kind and amount completed prior to and during undergraduate and graduate study, the recency of the work experience, the nature of the teaching assignment, and the rate of change in job requirements in the area in which the teacher is preparing students. A great deal of the responsibility for determining the nature and length of the work experience needed by in-service business education teachers will have to rest ultimately with the teacher themselves since they must assume responsibility for keeping abreast of the changes occurring in their teaching field.

The time is perhaps not too far away when in-service business education teachers will be required to obtain related work experience at various intervals in their teaching careers in order to retain their certification. In the immediate future, the major emphasis will probably be on the development of unique work experience programs to meet graduation and initial certification requirements.

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[10] Ellis, William G. "Work Experience for Business Teachers." National Business Education Quarterly 38:45; December, 1969.

[11] Vaughn, op. cit., p. 18.

[12] Beck, James F. "We Added a New Dimension to In-Service Training." Business Education World 47:14-16; January, 1967.

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TRADE AND INDUSTRIAL TEACHER EDUCATION IN THE 1970's

by
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We are now talking about T&I teacher education in the '70's, and most of us haven't finished what we started out to do in the '60's. I'm wondering whether this means the '60's should be forgotten or whether we should try to do in the '70's what was planned for the preceding decade.

It's a case of "Stop the world; I need to get off here". This would be the easy way out if it were possible, but sad as it might be it's a case of "ready or not, here it comes".

As you know its quite difficult to get agreement on the importance of something that's already past. It's even more difficult to get agreement on a forecast of events that will take place in the future, but that's what a recent study has attempted to do; it falls in the category of "collective prediction". The validity of "collective prediction" probably should be greater than a single person's forecast. With this thought in mind, a list of thirteen statements was formulated that was thought to be pertinent to T&I teacher education. Copies of these statements were sent to eighty chairmen or heads of T&I teacher education institutions in forty different states. These persons were asked to note the extent of their agreement or disagreement (a Likert-type scale) on each of the statements. Of the eighty lists of statements sent, seventy-six were returned - 95 percent.

Table 1 presents the statements and the distribution of responses.

TABLE 1

TEACHER EDUCATION IN THE 1970'S

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. More emphasis will be placed on all aspects of vocational teacher education during the 1970's.	54	19	2	0	1
2. Many trade and industrial teacher education programs will tend to merge into "vocational" teacher education programs during the 1970's.	24	36	7	3	6
3. Academic requirements for initial employment of trade and industrial teachers will be significantly higher during the 1970's.	17	33	22	2	2
4. Itinerant teacher training in trade and industry will tend to increase during the 1970's.	15	40	12	4	5
5. Associate degree programs designed for preparing trade and industrial teachers will greatly increase during the 1970's.	13	33	15	6	9
6. Baccalaureate programs designed for preparing trade and industrial teachers will increase significantly during the 1970's.	29	37	9	1	0
7. Occupational proficiency examinations will play a significantly larger role in employing trade and industrial teachers during the 1970's.	24	34	13	1	4

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
8. During the 1970's the use of occupational proficiency examinations for granting college credit will become less and less popular.	4	13	34	23	3
9. The number of years of occupational experience required to qualify for initial trade and industrial teacher certification will tend to be lowered during the 1970's.	12	32	25	5	2
10. The "new" trade and industrial teacher of the 1970's will tend to be more academically inclined and less job oriented.	7	23	32	10	4
11. Emphasis on providing for the needs of the disadvantaged will cause the trade and industrial teacher education curriculums to lean more heavily toward courses in the behavioral sciences during the 1970's.	11	43	12	2	8
12. Trade and industrial teacher educators will increasingly engage themselves in research during the 1970's.	7	50	12	3	4
13. Small groups of states will increasingly cooperate with each other in meeting many of their needs in trade and industrial teacher education during the 1970's.	14	47	7	1	7

The responses to many of the questions leave little to interpretation, though some are less decisive in their meaning for the future. Numerous implications may be considered as one ponders over the data and proceeds to make plans for the next decade. Considering the possibility for misinterpretation, the data seem to reflect the following beliefs:

1. Vocational teacher education will be a focus of attention for solving many of the problems confronting vocational educators during the 1970's. It might be expected that such problems will relate to personnel development, curriculum and materials development, research and a myriad of other duties that seem to fall the lot of this group. There was little doubt in the minds of the respondents that teacher educators would be a busy group.

2. Many trade and industrial teacher education programs will tend to become more generalized and will put less emphasis on the specifics of industrial education. (Many respondents, writing in the margins of their instruments, lamented this thought but believed they were powerless to reverse the trend.)

3. Qualifications for initial employment of trade teachers in the '70's will include a higher academic requirement. This will necessitate a more formal pre-service teacher education program in many states and probably require a re-look for those institutions now providing such programs.

4. The itinerant teacher educator has proved his worth and his activities will increase. For those institutions not now providing help on this basis a re-examination of their services may be in order if the greatest aid is to be provided for the teacher "on the job".

5. The next decade will see a significant increase in the number of degree programs designed for preparing trade and industrial teachers. This will include the associate degree program as well as the baccalaureate program.

6. Occupational proficiency tests will come into extensive use for two purposes: (a) determining occupational competence prior to employment of the new teacher, and (b) substituting trade competence for academic credit.

7. There is a tendency to lower the number of required years of occupational experience for entrance into vocational-industrial teaching. This may relate only to those states requiring extensive experience; it would seem likely that reductions in the present requirements of other states may tend to endanger quality programs.

8. Curriculums for trade and industrial teachers will include more courses in the behavioral sciences than they have in the past. This trend may tend to be the cause for more of the amalgam in vocational teacher education previously suggested.

9. Teacher educators will become increasingly involved in research in the next decade.

10. More effort will be made by small groups of states to cooperatively solve mutual problems relating to trade and industrial teacher education.

STRUCTURED OCCUPATIONAL EXPERIENCE FOR TEACHERS

Alfred J. Mannebach
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How can teachers of agricultural occupations keep current their knowledges and skills in non-farming agricultural occupations? When and where can they obtain the on-the-job, occupational experiences needed by workers in agricultural firms? How can instructors keep current their teaching techniques and methods of teaching? In what manner can they obtain all of these experiences in the shortest possible period of time?

AN EXPERIMENTAL PROGRAM

These were some of the problems which confronted teachers and teacher educators at the University of Illinois. As a result, the teacher education staff designed a four-week experimental educational program involving structured, on-the-job, occupational experiences in agricultural firms plus related instruction in the classroom for teachers of agricultural occupations.

The teachers enrolled in the program spent Tuesday, Wednesday, Thursday, and Friday mornings during the four-week period in agricultural firms participating in structured occupational experiences. On these same days, the teachers received two hours of related classroom instruction at the University of Illinois. On Saturdays and Mondays, the teachers obtained a variety of unstructured experiences of their own choice in agricultural firms in their local communities.

The unstructured experiences served to supplement the structured occupational experiences and provided teachers experiences in other agricultural firms. The structured occupational experiences were planned to provide teachers on-the-job experiences in agricultural firms and to help them become informed in a realistic way regarding the factors involved in the movement of products from agricultural firms to customers. Completing selected activities and finding answers to prepared questions comprised the structured occupational experiences which the teachers completed in the agricultural firms.

Instruction in the classroom during the four-week period was focused on analyzing the experiences obtained by teachers, intellectualizing these experiences in terms of education objectives, and planning units of instruction which they could use in their teaching. Primary emphasis in the classroom consisted of resolving how the teachers' structured occupational experiences could be reflected most effectively in teaching plans and in teaching.

THE STUDY

The purpose of the study was to determine the effect of the intensive four-week experimental educational program on the behavior of teachers of agricultural occupations. Data were collected about teachers' knowledge and understanding of the functions and operations of agricultural firms, teachers' attitudes toward conducting programs of non-farm agricultural occupations, and their plans for teaching relating to agricultural occupations.

The population for the study was experienced Illinois high school and junior college teachers of agricultural occupations who were conducting concurrent work-education programs in agricultural firms and who applied to enroll in the program. The seven junior college teachers who applied were accepted and completed the four-week program. Of the twenty-two high school teachers submitting applications, eleven were selected randomly to comprise the experimental group. All enrolled and completed the four-week program. The eleven high school teachers comprising the control group did not receive any organized inservice education, instruction, or occupational experience during the study.

A test of knowledge, an attitude scale, and an inventory of activities were completed by the high school and junior college teachers involved in the study. The instruments were used to determine whether or not there were significant differences between the mean pretest and posttest scores of the junior college teachers enrolled; between the mean scores of the high school experimental and control groups; and between the mean posttest scores of the experimental groups of high school instructors. In addition, objective ratings and descriptive statements concerning the effectiveness of certain aspects of the experimental educational program were collected from the participating agricultural businessmen and the teachers enrolled.

FINDINGS

Of the nine hypotheses formulated, statisically significant differences were found in only one case. The mean posttest scores on the test of knowledge of the junior college teachers completing the program were significantly higher than their mean pretest scores. The findings of no significant differences may have resulted because only experienced teachers who were conducting programs of non-farm agricultural occupations were involved in the study. However, evidence collected from the cooperating agricultural businessmen and from the high school and junior college teachers enrolled provide further insight into the strengths and weaknesses of the four-week program.

The evidence indicated that the teachers and the businessmen liked the concept of using structured occupational experiences. Teachers felt that such experiences, when combined with the opportunity to discuss the experiences in the classroom, were of great benefit in planning and organizing for teaching. The teachers also liked the general method and approach used for obtaining important technical and occupational experiences. They especially liked the structured questions which were designed to guide them in asking about the organization, management, and operation of the agricultural firms. The worksheets used to gather information about the operation of the agricultural firms were well received by the teachers.

Most of the agricultural businessmen felt that the teachers should have spent more time in the firm. However, the teachers liked the half-day spent in the agricultural firm plus the two-hour period of time spent each day in the classroom.

Another finding was that in future years junior college teachers wanted to obtain their experiences in the same type of firm, in many cases, the same firm. This indicated that junior college teachers were placed properly and were interested in developing more expertise in an area of specialty. High school teachers, on the other hand, were more willing in future years to obtain a wider range of experiences in different types of agricultural firms.

The overall reaction to the experimental educational program by agricultural businessmen, high school teachers, and junior college teachers was excellent to good. Based upon a rating scale of excellent (5), good (4), adequate (3), fair (2), or poor (1), the mean overall rating of the experimental education program by the high school and junior college teachers was 4.72 and 4.57, respectively, while the mean overall rating of the agricultural businessmen was 4.35. These favorable reactions by the participants offered evidence of the success of the experimental educational program, as did their ratings on the other statements and their written reactions on the evaluation forms.

RECOMMENDATIONS

The following recommendations are based on knowledge gained while assisting with the development, execution and evaluation of the experimental educational program, while acting as a member of the teaching staff of the program, on observations made during the study, and the findings of the study.

---Teacher educators in agricultural education should continue to develop and offer short-term, in-service educational programs to help teachers keep current the knowledges and skills needed to prepare pupils for entry into any occupation involving knowledge and skill in agriculture.

---Teacher educators in agricultural education should continue to use structured activities as a method of obtaining short-term, on-the-job, occupational experiences in agricultural firms for teachers of agricultural occupations.

---The one-half day spent in the agricultural firms and the two-hour period spent each day in the classroom should be continued to allow teachers enrolled to discuss and analyze the structured activities in the classroom on the same day the activities were completed in the agricultural firms.

---Coordinating visits to the agricultural firms by the teaching staff of the program should be continued to maintain communication with personnel in participating agricultural firms.

---The teaching staff of programs in agricultural education exemplified by the experimental educational program should continue to focus the instruction in the classroom on discussing and analyzing the implications that the structured occupational experiences have for teaching non-farm agricultural occupations.

---Teacher educators in agricultural education should continue to develop instruments to evaluate the effect of innovative programs in agricultural education. Instruments should be developed that will measure knowledge and attitudes other than those measured by the instruments used in the study.

The data collected offered evidence of the success of the program. The overall ratings and the written reactions of the participating agricultural businessmen and the teachers indicated that the experimental educational program was meeting a critical inservice need of teachers of agricultural occupations. The cooperation and enthusiasm of the participants also suggested that teacher educators should continue to develop and offer short term inservice educational programs to help teachers keep current the knowledges and skills needed to prepare students for entry into agricultural occupations.

PROFESSIONAL IMPROVEMENT WHILE ON THE JOB

by
Travis Martin

The big question is: How can a skilled craftsman or technician with industrial or business experience maintain and update his skills and technical knowledge after he has been employed as an instructor in a vocational-technical school? This question has concerned both faculty and administration at Hawkeye Institute of Technology ever since it opened it doors in 1966. The problem is especially acute at institutions like Hawkeye where the instructors are employed on a 12-month basis.

In 1972, a joint committee composed of administration and faculty was established to study the situation and recommend a possible solution. The resulting program, developed over the past three years, is a professional improvement plan that provides instructors with sufficient time to upgrade their skills and knowledge while they continue to teach in their fields.

At Hawkeye, we believe that an effective instructional improvement program must function on a continuing basis. Unlike other upgrading programs which base recognized improvement on a selected number of course credit hours or the obtaining of an advanced degree, the approach developed at Hawkeye offers an opportunity for instructors to acquire and make use of new knowledge and skills within a systematic, continuing plan. The basic responsibility for improvement rests with the individual instructor to convey current knowledge and skills to students.

The administration recognized at the outset that it is imperative to a philosophy of continuing education that instructors be encouraged to take advantage of specific opportunities as they become available. Such a philosophy requires a commitment to provide working situations that place a premium on instructional competence.

Although monetary gain is not considered a direct factor in seeking instructional improvement, it cannot be disregarded as a motivator. Therefore, this plan provides a financial incentive for instructors to improve and/or maintain their skill levels as well as their pedagogical competencies.

The plan addresses two areas of concern. One is the instructor who is employed but only meets temporary certification requirements. This usually means that he or she has not taken the required professional work in education, which consists of five courses that must be completed during the first six years of employment. In the Hawkeye plan at the end of each year, before the preparation of a new contract, an employee will receive a $40 increase for each required course completed prior to March 15. This is in addition to normal salary increments.

The second element of the plan involves development of a system of instructional improvement credit. The program is optional. The instructor receives a bonus payment of $100 for each instructional improvement credit earned in a contract year. A maximum of three credits, or $300, is applicable each year. The bonus is not involved in considerations for total salary increases. It is included in the last contract payment of the year and applies only to those instructors employed on a 12-month contract who have previously completed at least one year under contract.

PERMANENT WATCHDOG

The implementation of the plan, once approved by the Board and presented to the faculty, required some structure for regulation and supervision. Therefore a permanent instructional improvement committee was established. Its membership, agreed on by both the faculty and administration, is composed of the following personnel:

Faculty Council Chairman
Chairman of the Faculty Council Instructional Improvement Committee
Director of Vocational-Technical Education
One Department Chairman

Alternates are selected for each committee member to ensure the committee's full participation in the plan. Additional personnel may serve in an advisory capacity at the committee's pleasure. This provision seemed justified, since judgments in some specialty areas might require knowledge beyond the committee's capabilities.

The first three members listed above and their alternates are selected by the faculty; the other two and their alternates, by the administration. The committee chairman is chosen by the members.

The main function of the instructional improvement committee is to review the total instructional improvement credit plan each year and report its findings and/or recommendations to the administration and faculty council. In this review, all developments, misunderstandings, issues, and concerns that have arisen during the year are considered. The committee is also concerned with reviewing any disagreements between any instructor and his department chairman regarding the instructor's proposal for instructional improvement credits. It is the committee's responsiblility to interpret such disagreements and render decisions.

For example, each instructor is responsible for initiating and presenting the proposal of activities geared toward his instructional improvement credit plan. The department chairman reviews this proposal, and if it meets with his satisfaction, the plan is accepted and initiated for that year. Should the instructor and his department head fail to agree on the plan, it is automatically referred to the committee, which has the responsibility to review it and render a decision that is considered final. The department chairman is required to present a written statement to the committee giving his reason for refusing or disagreeing with the proposal presented. This automatic review was included to ensure all participants an impartial hearing. The consensus was that some instructors, fearing the department head's resentment, might be reluctant to appeal to the review committee.

CREDIT SCALE ESTABLISHED

Instructional improvement credits can be accumulated in several ways. One IIC is awarded for each of the following:

(a) one semester of appropriate college or university credit;

(b) a minimum of 40 hours of appropriate work in business or industry;

(c) a minimum of 20 contact hours of appropriate seminar or workshop activity; and

(d) a minimum of 80 hours spent at the Institute in the study and development of new curriculum concepts as related to the instructor's specialty. (In this case, only two instructional improvement credits can be earned.)

To make sure that every instructor will have free time to pursue the improvement of his or her instruction, the institution sets aside an equivalent of 20 days each contract year for that purpose. In addition, another 20 days are held in option and may be used to extend the normal 20 days of instructional improvement, if deemed beneficial. This option allows the instructor to take special assignments that may advance the Institute in its mission, or he may be assigned improvement experiences that run concurrent with instructional improvement credit allowances.

The 20 days of instructional improvement do not have to be taken in a particular quarter. The plan calls for a program of extreme flexibility with days taken during any quarter of the year in varying amounts of time, depending on the nature of the activity. An activity may, for example, involve a three-day workshop or seminar appropriate for the improvement of an instructor's teaching area. When such an activity conflicts with the instructor's schedule, a substitute is designated to handle his class.

OPTIONS ADD TO FLEXIBILITY

In some cases where the normal 20 days allocated to improvement are not adequate to meet specific needs, the Institute exercises its option to assign a definite amount of time to the instructor. For example, it is possible for an instructor to teach a halfload during one quarter, with the Institute exercising its option to assign the instructor to part-time enrollment at the local university in a selected course or courses.

The important element in making the system work is to allow as much flexibility as possible while recognizing individual needs and varying standards for the diversity of instructional competencies necessary to carry out the mission of the institution.

Instructors participating in college or university courses for improvement credit are not paid tuition, fees, or other associated costs. Nor does the plan cover all full-time staff. Excluded are full-time contractual personnel employed and working under special grants and federal programs such as the Institute's MDTA programs and special needs programs.

The department chairman maintains a portfolio on every instructor in his department who participates in the program. Included in the portfolio is the instructor's personal plan for improvement as well as any recommendations or actions taken by the department chairman. The department chairman is responsible for checking on the instructor's perceived needs for improvement and the type of corrective activity the instructor suggests. The instructor must, however, initiate his own request, which takes the form of his personal plan of action.

Figure 1 shows last year's participation figures for all departments, reflecting the number of participants, cost, and number of days.

STATE DEPARTMENT TAKES HEED

The Board has endorsed the complete instructional improvement concept and has agreed to fund it for its fourth year. Since the implementation of the plan, the State Department of Public Instruction has been experimenting with some new ideas in state recertification. It has approved a proposal submitted by the Institute, based on the general guidelines and principles developed in the improvement plan.

It is hoped that the plan, in principle, will be utilized to meet recertification requirements. Hawkeye Institute and the State of Iowa are concerned and interested in developing plans that are flexible and innovative.

Figure 1: Participation Figures for All Departments, 1973-74

Department	Number of Participants	Cost	Number of Days
Agriculture and Natural Resources	6	$1,800	111
Business	2	500	18
Electronics	5	1,100	16
Graphic and Applied Arts	10	2,700	113
Health Occupations	11	3,100	94
Industrial Technology	17	4,400	92
Power Mechanics	12	3,100	77
Public Service	4	1,200	54
	67	$17,900	575

INCREASING TEACHER COMPETENCY THROUGH RELEVANT IN-SERVICE EDUCATION

by
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Quality programs in vocational agriculture/agribusiness are the result of numerous inputs. It is commonly accepted that adequate facilities, sufficient financial support, committed support from the administration and the community are essential. The thrust of this article, however, is to focus on the most vital ingredient of a dynamic program - the local vo-ag teacher. To meet student needs, the instructor must be the product of a quality preservice college of university educational program. He/she must be vocationally certified to teach those courses concurrently being offered in the school in which he/she is seeking employment. Nearly all vo-ag instructors in Wisconsin are graduates of one of the three University of Wisconsin teacher training institutions - Madison, Platteville or River Falls - and, therefore, are well qualified to prepare young men and women for teaching in production agriculture and agribusiness courses.

An excellent preservice program, however, is not enough. Due to changing times, a rapidly changing agriculture technology and a changing world of work dictates that the teacher acquire competence in several agricultural areas.

One of the most successful means of assisting teachers to upgrade their skills, knowledge and understanding is a relevant in-service program.

Wisconsin has for many years provided a series of intensive two-day workshops on relevant topics during the annual Wisconsin Association of Vocational Agruculture Instructors summer conference held early in July. This program is jointly planned by consultants from the Department of Public Instruction, the Vocational, Technical and Adult Education System and the head teacher educator from the University of Wisconsin-Madison. In recent years, an inter-disciplinary approach involving several specialists has provided keener insights, created a greater awareness and interest, and provided a greater breadth of knowledge than when all presentations were made by one or possibly two specialists. One of the strengths of the workshop concept is that education can be provided to meet today's needs today. To be most helpful to our teachers, the material presented must be useful and practical so it can be easily infused into the curriculum. Workshop presenters, because of their close communication with consultants, are cognizant of student needs and have been most cooperative in preparing visuals, simulated problems and other relevant resource material that teachers can use in their instructional program. Other workshops have also been arranged for those instructors who have special needs based on recent or contemplated curriculum changes.

The aforementioned strategy, while very successful, did not accomplish all objectives. To provide needed answers to guide the committee in formulating a long range plan for in-service education, a questionnaire was prepared and circulated along with the monthly vocational agriculture/agribusiness newsletter. Returns revealed many and diverse needs, however, the greatest need for upgrading instructor competency centered in the area of agricultural mechanics. To assist in implementing a three-year program in agriculture mechanics, members of the Wisconsin Association of Vocational Agriculture Instructors Curriculum Committee, meeting with consultants and University of Wisconsin staff members, were asked to assist in identifying specific skills needed, develop schedules and select workshop locations. Currently, plans are being finalized to develop three-day workshops in cooperation with industry, the Univerisy of Wisconsin, VTAE schools, and local high schools. Workshop locations throughout the state were selected based on the facilities available and teacher population in the area. Workshop course content for these events will be developed jointly with industry, UW, VTAE, DPI, and interested teachers. In the current year, tractors will receive the prime focus, followed by tillage and seeding implements and finally harvesting equipment will be featured. Unless a strong demand surfaces, this in-service program will not carry graduate credit, but will undoubtedly meet Board of Education requirements for continuing education.

Less extensive programs designed to meet the needs of experienced and inexperienced teachers alike include workshops in land judging, parliamentary procedure, curriculum, program visits by consultants and numerous meetings sponsored by UW Extension, livestock and industry groups, much relevant material is obtained through participation in these events.

The University of Wisconsin at Madison, Platteville and River Falls has for several years conducted a graduate level agriculture education course for beginning instructors and for those who have returned to teaching after a short or extended absence from the classroom. Because the class members deal with current problems being experienced by class members such as curriculum planning, selecting teaching materials, funding, teaching strategies, discipline, community involvement, etc., the course if more relevant than others taken during their undergraduate experience. Classes are held bi-weekly and on one or more Saturdays throughout the academic year. The course is taught by university professors with assistance from DPI and VTAE consultants.

As the school and community continues to profit from this quality educational effort, support from the administration and local citizens will become increasingly apparent. The ultimate benefactors, however, are the boys and girls who are developing into well-adjusted, participating members of our society.

As we continue to provide a relevant and continuous in-service program for our vo-ag teachers, we can expect that instructors will more likely reach their full potential in agriculture education and receive greater satisfaction from their teaching experience. This probably will result in a lower rate of teacher attrition, more extensive curriculum offerings, and a more relevant FFA program of activities.

REPORT RESUMES

by
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PILOT TRAINING PROJECT: Based on directed occupational experience for teachers of marketing and distribution.

DESCRIPTORS - Pilot Projects, Inservice Teacher Education, Summer Institutes, Work Study Programs, Distributive Education Teachers, Program Descriptions, Distributive Education, Program Evaluation, Records (Forms), Followup Studies.

Thirty pre-employment, high school, and post-high school distributive education teachers from five states participated in a seven week occupational experience training project to update and extend their knowledge of occupational fields, to improve their teaching competencies, and to prepare instructional materials. An introduction to relevant research and theory, instruction in observing job situations and developing curriculum materials and a pretest on marketing functions were presented during the first week, during four weeks each teacher spent two 8-day periods in two different firms. Each completed job analysis forms, wrote critical incidents of effective and ineffective behavior and job descriptions, and identified problems and work competencies. In seminars held each Friday, groups identified instructional development competencies. In the final weeks, activities, materials, and projects for use in teaching were developed. Each participant completed an evaluation form and a post test in marketing functions. Some conclusions were -- (1) Participants improved their knowledge of marketing functions and were better able to communicate a practical understanding and to plan vocational learning activities in their teaching, (2) They were able to identify and communicate the

psychological and sociological dimensions of a job, (3) Excellent rapport was established between the business community and the distributive education program, and (4) Periodic directed occupational experiences should be provided for distributive education personnel. Sample forms and letters are included.

SUMMARY OF THE PROJECT

Purposes and Objectives

The vocational teacher, who is engaged in preparing individuals to enter, adjust and advance in the world of work needs occupational experience in order to develop meaningful instruction and to be effective in teaching, guiding, and directing the training of students. This experience must be recent or up-to-date with current job opportunities. It must offer enough variety so the teacher has an insight to the various jobs in the occupational field. And it must be of a quality that has prepared the teacher to understand the requirements the students will need to enter, adjust, and advance in their chosen occupation.

With the increased demand for vocational teachers and the changing nature of jobs in today's world of work, it is important that we find effective ways to provide occupational experience that will prepare more vocational teachers and to keep their occupational experience up-to-date. This pilot project was conducted to achieve this goal, and focused on the following objectives:

1. To determine what contributions, if any, a training project including occupational experiences in marketing and distribution

may make to the development of selected competencies of a group of distributive occupations teachers and teacher-coordinators.

2. To improve selected teaching and guidance competencies of a group of distributive occupations teachers and teacher-coordinators through a training project in marketing and distribution.

Conclusions and Recommendations

The staff at the University, who planned and conducted the project, concluded that the objectives of the project were achieved.

A planned series of occupational experiences contributes to the development of distributive occupations teachers. These experiences should be preceded by instruction and direction in what to observe in the work situation and how to apply the experience to instruction. The use of structured or semi-structured observation reports and interviews forces the participants to examine important dimensions of an occupation or work situation that usually are not considered.

Through cooperative arrangements between the teacher-education institution and distributive firms, a series of meaningful experiences in the various facets of a firm's operations can be provided in a short period of time. This experience should include some actual job performance and opportunities for the observer to have contacts with employees at all levels. The teacher needs to have experience in a variety of firms in order to understand the application of marketing theory to the various occupations in distribution. Even though people come into education with rich backgrounds in occupational experience, usually their experiences are limited to one or two types of distributive firms, products, or phases of an operation. Also they were not as perceptive of training implications during previously acquired experience as they are when the focus of their attention is on analyzing the work situation for the purpose of planning instruction. There is also the need to up-date these experiences periodically because of the dynamic nature of distribution. This is also characteristic of occupations in general and the changing world of work.

Instruction in distributive education has centered on the understanding of marketing functions and the acquisition of product or service technology, so that the student-trainee can achieve the performance requirements of the job. While this is still indispensible, the participants in this project were made aware of the importance of adjustment to the psychological and sociological dimension of the work situation. In placing students, it is as important to match the student's needs with the satisfactions available in the job as it is to match the student's ability with the ability requirements of the job, when work adjustment is desired. Participants in the project gained a better perception of satisfactions available in jobs and were able to apply this in guiding and placing student-trainees.

Through close examination of the performance of an occupation and tasks in a job, the participants could identify behavioral objectives that they wanted to achieve with their students. When instruction is directed toward the achievement of specific performance objectives with standards identified, the teacher chooses learning activities that focus on application rather than the mere acquisition of information, which is often the outcome of instruction planned around a topical outline. The participants wrote a large number of valuable learning activities that would develop occupational competency and behaviors required in job situations. These learning activities were later used in their classrooms and will be available for use by other teachers.

The staff, the participants, and the cooperating employers were enthusiastic about the outcomes of the project. The value of communication between the participants and the business firms and the University staff contacts with people in business was an important outcome that has fostered the growth and improvement of the entire distributive education program in the State of Minnesota.

FINDINGS

The following table includes the scores on the pre-test and the post-test for the 30 workshop participants.

MARKETING FUNCTIONS TEST

Participant No.	Pre-Test	Post-Test	Gain
1	36	39	+3
2	27	28	+1
3	32	28	-4
4	27	30	+3
5	34	33	-1
6	30	32	+2
7	41	43	+2
8	34	30	-4
9	35	39	+4
10	36	38	+2
11	32	31	-1
12	35	38	+3
13	38	37	-1
14	38	41	+3
15	26	26	0
16	43	43	0
17	29	33	+4
18	33	34	+1
19	33	33	0
20	32	38	+6
21	36	36	0
22	38	36	-2
23	33	35	+2
24	31	36	+5
25	34	36	+2
26	35	30	-5
27	32	27	-5
28	39	41	+2
29	35	37	+2
30	32	38	+6

Mean - 32.3
Median - 34.3
Mode - 32
S.D. - 4.3
Variance - 18.6

Mean - 34.2
Median - 36.5
Mode - 36 & 38
S.D. - 4.7
Variance - 22

CONCLUSIONS

The following conclusions regarding the achievement of the objectives and purposes of the training project represent the project staff's combined evaluation:

I. Value of the project in developing teacher competencies and in planning occupational experience programs for teachers.

   A. Proper orientation of participants was crucial to the development of a successful teacher-training program based on occupational experience as evidenced by the participant's evaluation of the orientation and by the influence the orientation had on the instructional materials developed by the participants.

   B. A definite structure and procedure for observing, gathering and recording information about distributive workers and their jobs was necessary to maximize the value of the occupational experience.

   C. Participants were able to improve their knowledge of marketing functions and to better communicate a practical understanding of distribution in their own teaching as a result of seeing the functions performed in the business firm.

   D. Direct contacts with distributive workers served as a basis for understanding the satisfactions derived from a distributive occupation.

II. Improvement of Teacher-competencies

   A. Participants were able to identify skills, knowledges, and attitudes needed by young distributive workers and to plan instruction based on technical skills and knowledges, occupational adjustment and career development outcomes.

B. Directed occupational experience served as a basis for planning learning activities and projects that were vocationally oriented. The follow-up visitation reports specify the activities and projects.

C. The combination of didactic instruction and directed occupational experience enabled the participants to improve their techniques of vocational guidance and counseling as revealed in the follow-up evaluation and visitation.

D. The performance of training sponsors and the effectiveness of the training stations were improved as indicated by the participants concern for more specific training plans and the attention being given to coordination and sponsor development programs.

E. The experience of having been an observer and a learner is the occupational environment improved the participant's ability to empathize with his students and improve student learning in classrooms, on-the-job, and in club activities.

F. Participants were able to clarify their impressions of persons employed in distributive occupations. They developed narrative job descriptions that revealed the psychological and sociological dimensions of a worker's job which gives the reader a realistic picture of the occupation and the life of a worker in the occupation.

III. Preparation of learning activities

Participants developed and used effectively learning activities for students enrolled in high school and post-high school distributive education programs as evidenced by the written materials submitted and the observations of the staff in follow-up visitations.

IV. Conclusions Pertaining to Unanticipated Outcomes

A. Excellent rapport was established between the business community and the distributive education program.

B. Business contacts led to the use of Twin City businesses as training stations for the student-trainees of the training project participants and as a source of instructional materials and speakers.

C. Several business firms requested information as to how their employees could obtain supplementary job training outside their firms, as well as how they could improve their own training programs.

D. Methods used to analyze the jobs and occupations during the training project were later used by the participants in helping their student-trainees in studying their own jobs and work situations.

E. Benefits were derived from the participants being able to share common experiences in a seminar relationship. A continued esprit-de-corps and professional attitude among the group grew out of this relationship.

F. Participants recognized the contributions of other disciplines such as industrial relations, psychology, and guidance to occupational education and were able to apply these ideas to the study of occupations.

G. Businessmen felt that they were able to make a contribution to education and society through participation in the training project.

H. The experiences of the participants revealed the need for considering the application of Electronic Data Processing to distribution and its implication for distributive education.

RECOMMENDATIONS

Periodic directed occupational experiences should be provided for distributive education personnel to keep abreast of changes in business technology, relationships between workers and jobs, changes in occupational structure and new approaches to occupational education. These experiences should be in a variety of firms representing the broad field of distribution including retail, wholesale, and industrial sales. The teacher should also be able to explore a variety of occupations at various levels and in the different kinds of work activities performed. In order to provide this variety cooperating firms may find it difficult to employ the teacher for wages. In order to encourage teachers to enroll it is recommended that the teacher-training institution grant Graduate credit to in-service teachers for participating. The orientation, instruction, and concurrent seminar program are necessary to maximize the benefits of being in the firm.

NATIONAL OCCUPATIONAL COMPETENCY EXAMS FOR FUTURE TEACHERS

by
Adolf Panitz

As vocational educators we have long recognized that a competent individual from industry can be trained to be a good teacher in much shorter time than a competent teacher can be trained in the skills of the occupation. We also know that the success of our vocational programs depends upon the right kind of teacher in possession of the right kind of occupational competence.

Employers know that their success depends upon a qualified, competent work force. The vocational programs represent the bridge that an inexperienced individual can cross to gain entry and make progress in an occupation. The vocational teacher provides the training that helps the learner across that bridge.

Whether vocational education relates to the preparation of youth, new workers or the training or upgrading of adults, and whether the training is conducted in educational institutions, industry, by unions or the military, there is a force common to all to make potential manpower actual manpower. That force is the occupational competence of the teacher.

With the continuing growth of the labor force and increasing demands for training through vocational education programs, the need for occupationally competent tradesmen and technicians is critical. The level of occupational competence is the keystone upon which the whole program of instruction is built. Although it is essential that the prospective teacher possess the personal qualities that are fundamental to teaching, there must also be evidence that the range of occupational competence is adequate to meet the full spectrum of youths, adults, and those of industry.

There has been a growing concern over the need for measures to accurately evaluate occupational competence. This concern has been expressed by vocational school administrators, leaders in industry and labor, the military, state officials responsible for the certification of vocational teachers, industrial teacher educators, and teachers themselves. Standards have been sought by which to judge teaching/learning effectiveness in terms of skill and related technical competence.

Experience has shown that the quality of instruction depends upon the occupational competency of the teacher. Thus the need for instruments for evaluating the practical skills and related technical knowledge becomes crucial. Without such objective instruments it is not possible to ascertain whether the prospective teacher possesses the broadly based occupational competence needed.

The search for such measures has been carried on for many years but only sporadically. One of the first reports of occupational competency evaluation by means of performance test dates back to 1933. It was issued by the University of Pittsburgh for one occupation. It has been well known throughout our history that few states have the financial resources, facilities, or the personnel to develop reliable, valid comprehensive examinations on a large scale that can be efficiently administered and provide test scores that can be readily interpreted. Yet it has also been known that a number of states were and are now using occupational tests.

At this point it may be appropriate to briefly review prevailing practices uncovered in our search for occupational competency evaluation measures that led to a national effort of occupational competency test development and administration. As recently as 1970 there were: twenty institutions that prepared examinations for the machine trades, sixteen institutions that prepared examinations for the automotive trade, and twelve institutions that prepared tests for electrical installation.

The list is actually much longer; let these examples suffice for the moment. A careful analysis revealed astounding variation in content and number of test items for occupations little affected by geographic differences. (85-285 test items).

NATIONAL PROGRAM FORMED

When all factors were considered - the duplication in manpower, time, effort, and the small number of tests resulting from this dispersed effort - the need for a national coordinated program of occupational test development became obvious. With vision and determination, men such as Carl Scharfer (Rutgers University), C. Thomas Olivo (Temple University), Mel Barlow (UCLA), and Richard Nelson (California State Education Department) obtained a grant from the U.S. Office of Education, which was assigned to Rutgers University. As a result, the National Occupational Competency Testing Project was formed. For the first time in the history of vocational education a national cooperative effort was undertaken that resulted in a breakthrough in occupational competency testing.

The National Occupational Competency Testing Institute was a natural outgrowth of the project, and it has become an active permanent organization.

It provides at last long-needed testing service for vocational education. The institute is yours; it is governed by a National Consortium of States (44 states have designated representatives) and administered by an Administrative Board whose members are elected by the consortium states - one from each of the ten regions. The institute is located at Educational Testing Service, Princeton, New Jersey; we are under contracted agreement with ETS. They will produce, administer, score, and report the test results for the 24 major industrial occupations for which written and performance examinations have been developed. Continuing research will be conducted in performance testing and the sophisticated resources of ETS will be available to serve the testing needs in other areas of vocational education.

The term competence is discussed more often than acted upon these days. Occupational competence is variable and difficult to define, but we have certain advantages in vocational education. It is axiomatic in test and measurement that any instrument development for measurement must rest upon clear definitions of exactly what is to be evaluated. We can define it. Basically occupational competence evaluation depends upon: the conditions under which the work is carried on; the tasks that are performed at various levels; the information, judgements, facts, and how to apply them to work situations; and a wide range of complete skills applied to a multitude of work assignments.

The key for determining the occupational competence for future vocational teachers will be an acceptable level of one's competence. Each occupation contains elements that distinquish the competent all-around tradesman from the less competent. Among the more easily recognizable elements are the following.

-He has command of the manipulative skills of his occupation in terms of technique, quality of work, and speed of performance.

-He is able to diagnose and correct troubles and solve problems typical of the kind encountered in the performance of his occupation.

-He can plan his work efficiently.

-He has knowledge of technical facts and underlying scientific principles and is able to apply this knowledge to specific work assignments.

-He is able to make all computations necessary to his work.

-He can interpret drawings, diagrams, specifications, and other directions pertinent to his field.

Broadly stated, an individual is considered competent when he can carry on the work of the occupation at or above a certain level and within a broad range of assignments.

The key to occupational competency definition is the level at which the tradesman functions. The vocational program's administrator and the industry the program serves must have assurance that the level and range of occupational competence of the future teacher is adequate to meet the full spectrum of youth and adult training needs.

CHOOSING THE INSTRUMENTS

The dominant practice in nearly all forms of evaluation is the pencil-and paper test. It is objective, can be administered easily and the results can be scored and reported easily and rapidly. There are those who maintain that occupational competency can be evaluated by this means.

There is, however, convincing evidence that added measures are needed to evaluate the skill phase of occupational competence. In a study of norm patterns applied to the selection of trade and technical teacher candidates, Reilly concluded that written examinations alone are a poor predictor of trade competence. Stuif, who conducted extensive work on performance measures for the Navy during World War II, concluded that performance and improved shop grades were not closely related to written test grades. On the other hand, Hankin stated that the correlation should be high if the study population from which the scores are drawn represent a normal range of competence, from low to high. If such correlations are low on one or the other of the tests, usually the written test is weak.

The notion that if there is a high correlation only on the written test would be needed drives from other fields of testing such as mental ability, where the intention is to isolate independent traits such as space perception and verbal masoning.

The competent worker has both types of ability and they are not independent. It is only by written and performance tests that the breadth of competency can be evaluated.

On the basis of available research data, combined with field studies and results obtained from a pilot testing program, it became evident early in the project, that occupational competency evaluation by means of examinations required both written and performance tests.

Vocational educators long ago established a valid and reliable procedure for determining the learning or instructional content of an occupation through occupational analysis. This method has served us well and proved to be, with minor modification, a very practical way for determining the

the content for occupational competency examinations. Such an analysis must provide the necessary information for the written test and the skills to be evaluated by the performance test.

As indicated earlier, many industrial occupations involve clusters of jobs ranging from the specialist to the all-round tradesman. The first step in this analysis was to establish job clusters representing several levels of competence, then to examine each level for facts, information, judgements, computations, and kinds of directions that a competent man would apply. Similar determination was made for the manipulative skills, their frequency of use, degree of complexity, and commonality throughout the job clusters.

Such an analysis requires great care and must be made by individuals who represent a broad spectrum of the occupation and who are recognized for their competence. They must be assisted by teacher educators and/or test technicians with special skills in competency analysis. Basically it involves the following steps: Determination of job clusters representing several levels of competencey; determination of the manipulative skills, their frequency of use, degree of complexity, and their difficulty and communality throughout the job cluster; and identification of specific information, facts, computations, specifications, and directions - the frequency of use and difficulty in application to the daily work jobs.

Although the analysis of the items that constitute occupational competence is a formidable task, it is really only one of the steps required for test development. Since it is not possible to include all items of an analysis in either the written or performance test, careful planning must determine: Appropriate sampling of all areas of competence, exclude regional preferences and practices, and determine the physical feasibility of performance demonstration.

The survey of the state of the art clearly established the need for a practical and reliable procedure that would be applicable to all occupations.

Good test development requires knowledgeable people and time and care in planning. These are the key ingredients of good test construction.

The following ten procedures were developed and followed with satisfying results:

1. Establishment of an Advisory Committee consisting of representatives of industry and/or occupations to determine the levels of competence and overall test content.

2. Designation of recognized and competent individuals and analysis specialists to conduct the occupational analysis.

3. Designation of individuals from the occupation, vocational teachers, and test technicians to prepare a test grid for adequate coverage of all areas of the occupation scope of the examination.

4. Preparation of test items for written and performance tests by individuals from industry, by a test technician, and vocational teachers.

5. Organization of test items into a first draft test by test technician.

6. Test administration to several outstanding craftsmen in the occupation for review and comment.

7. Test revision according to responses and recommendations.

8. Test submitted to professional testing organization such as Educational Testing Service, Psychological Corporation, for review and revision.

9. Pilot administration of tests to obtain data and to check test administrative procedures.

10. Scoring and reporting to candidates, followed by statistical analysis, item analysis, and test revision.

Occupational competency examinations have been developed in 24 major industrial occupations. Among the cooperating agencies and individuals were industrial teacher educators, state directors of vocational education, state supervisors of T & I, as well as industry presentations. The magnitude of this cooperation can best be described by the fact that over 2,700 individuals have been involved in this undertaking.

Each occupational competency examination consists of a written part and a performance part. Two forms for each examination have been developed. For the first time in vocational education, occupational competency examinations were administered from a central location in 24 area test centers located throughout the country.

Although it is not possible within the limitations of this presentation to provide specific data for each test, perhaps some general comments about the quality of the tests might be of interest. The data for the written tests showed a reliability range from .882 to .925. The mean for item difficulty ranged from .480 to .0510, and item discrimination from .325 to .410. For a first effort these results are indeed promising. More importantly, we now have information that enables us to make further test improvements. The performance test, more difficult to evaluate, produced equally promising data. More subjective in nature than the written test, the observations of the candidates were made according to a predetermined evaluation scale. The examiners had to confine their judgments to predetermined items on the evaluation scale. Spot inspection during performance tests revealed a high correlation of rating among performance examiners.

The pilot testing proved that the test quality was good. It provided the practicality of adminstering centrally developed tests on a national scale.

THE TEST PACKAGE

So far we have talked about the background, method, use, quality, and number of the tests. Now let's briefly describe what constitutes a test package.

The following materials are provided:

- A Bulletin for the candidate that describes in general terms the testing program, the basic eligibility requirements, and how he can register.
- A Scope of the Written and Performance Tests for each occupation that tells the candidate the content of the examination.
- A Manual for Administering Written and Performance Tests for the examiners.
- Directions to the performance examiner with detailed instructions for the preparation of shops or laboratories - materials required, tools, machines, equipment, and facilities needed - as well as performance evaluation directions.
- The Written Test
- The Performance Test.

Originally designed to assist the vocational teacher educator in selecting the occupationally best qualified individuals for their training programs, the examinations have been used for experience evaluation by teacher certification agencies. More recently, degree granting institutions have recognized the value of work experience by granting advanced credit towards degrees in vocational education by means of occupational competency examinations. However, getting institutions to move from the philosophical acceptance of work experience to actually granting credit is a slow process requiring determination, conviction, and perseverance. Questions about how much credit, in which subject areas, and at what point in the program are easier raised than answered. A number of institutions have answered these questions and grant credit towards degree programs for a number of years; to others, the practical application of this concept has caused a wide range of concerns, fears, and apprehensions. It can be said with confidence that credit for occupational competence carries with it a powerful motive for vocational teachers to pursue degree studies.

Thus, after many years of persistent, strenuous effort a National Occupational Competency Testing Institute is now a reality. It has been established and is governed by a Consortium of States and will render effective, continuing services determined by a representative Administrative Board, thus maintaining close contact with the needs of the states.

The national program of occuptional competency examinations will enable individuals in vocational education to participate in higher education through demonstrated competence. It provides evidence to establish standards on a broad basis and remove some of the barriers that currently make it difficult for vocational teachers to pursue advanced studies and earn degrees. Furthermore, it provides the evidence necessary to encourage qualified persons to strive for professional improvement. Ultimately, a national occupational competency testing program will inevitably improve the profession of the vocational teacher.

Through its affiliation with Educational Testing Service, the institute has combined the availablity of sophisticated psychometric and testing experience with the practical approaches developed during the research and development phase of the project.

In conclusion, keep in mind that this national effort, involving cooperatively many outstanding individuals in vocational education, is really an effort by the profession to improve vocational teacher competence, to raise the professional recognition of vocational teachers, and thus contribute to the further improvement of vocational education.

The tools for evaluating work experience are now available, their continuing improvement depends upon you. The tools are here. Will you use them?

TEACHER COMPETENCIES AND CERTIFICATION
HOW INFLUENTIAL IS THE RESEARCH?

by
Wayne S. Ramp
and Ronald C. Reeder

Leaders in vocational education are currently involved in much study and discussion concerning the upgrading of vocational teacher competencies and the quality of vocational instruction.

The emphasis on accountability and evaluation of teachers and instruction has undoubtedly spurred efforts toward determining the characteristics and competencies possessed by successful teachers which, in turn, have led to identifying teacher education experiences deemed to be most valuable to teaching success.

Such efforts seem necessary in order to provide curriculums and the state certification requirements that dictate much of the content of those curriculums.

The AVA-sponsored National Study on Accreditation of Vocational Technical Education and the EPDA assessment project (Professional Development in Teacher Education) are two examples of nationwide efforts in this direction. There seems to be an assumption that the results and conclusions of such studies will have sufficient impact and importance to be accepted by teacher educators and state accreditation officials as guidelines for curriculum change.

QUESTION CALLS FOR STUDY

In light of present efforts to improve vocational education by determining the most desirable teacher competencies and how they are best transmitted to prospective teachers, the question arises: What impact have the findings of past studies based on opinions and suggestions from those in the field had on current teacher training curriculums and certification requirements?

A positive relationship between past recommendations and present teacher training requirements could indicate that current studies utilizing the opinions and suggestions of frontline vocational people will tend to influence future vocational teacher programs. Thus the question of whether past studies of necessary teacher competencies have helped to mold current teacher education requirements is one that ought to be given serious consideration.

One such study conducted more than a decade ago by John P. Walsh was directed toward determining the competencies most important to the success of trade and industrial teachers across the nation.*

The findings of that study, including the suggestions and opinions of 862 T & I teachers, teacher educators and supervisors, were published by the USOE and widely distributed. If Walsh's study was representative of the opinions of frontline T&I people at the time it was conducted, it seems logical to assume that 13 years later those ideas would be evident in T & I teacher education programs as reflected by state certification requirements.

AN ATTEMPT TO CHECK

In an attempt to determine the existence of any such relationship, Walsh's findings were compared with the results of a study recently completed by the Occupational Education Staff at Southern Illinois University.** This study concerned the analysis of T & I teacher certification requirements in the 50 states and included a breakdown, by states, of required academic achievement levels, specific courses and course areas, and work experience requirements to meet minimum certification standards.

The SIU report indicated that 38 states specified some college level work to meet the academic requirements for standard certification of T & I teachers. Sixteen of those states called for baccalaureate degrees, while 22 specified lesser amounts of college preparation. All 38 states required certain teacher education courses and specified amounts of work experience in the specialty area.

The competencies Walsh found to be most important to teaching success were listed by him and discussed under two major groupings: Those derived from teacher education courses and those acquired through direct experience.

In those two categories, Walsh identified nine areas of competency which were deemed to be needed by trade and industrial teachers. They were as follows:

1. Trade Analysis
2. Course Analysis and Construction
3. Methods of Teaching Industrial Subjects
4. Preparation and Use of Instructional Materials

5. Principles and Philosophy of Vocational Education
6. Tests and Measurements
7. Preservice Teacher Training
8. Journeyman Work Experience
9. Practice Teaching

Each of these competency areas was compared with the state requirements for certification as reported in the SIU 50 - state study. The results are listed below.

COURSE COMPETENCIES REQUIRED

Trade Analysis: Ten states specifically required such a course.

Course Analysis and Construction: Specifically required by 13 states. Eight of those states also specified trade analysis and the other five listed general vocational teacher education course requirements which may have included trade analysis.

Methods of Teaching Industrial Subjects: Nineteen states required this course. Included in this number were nine of the states that required trade analysis. Twelve of the 19 also specified course analysis and construction.

Preparation and Use of Instructional Materials: Required by ten states.

Principles and Philosophy of Vocational Education: Teacher educators in Walsh's study ranked high the need for knowledge or understanding of the objectives of the trades and industries program. This competency rating is probably an outcome of the course entitled "Principles and Philosophy of Vocational Education". Fifteen states specified this course in their requirements for teacher certification.

Test and Measurements: According to Walsh, local administrators, state and local supervisors, and teacher educators indicated dissatisfaction with teacher preparation in this area. Currently, six states make this course a specified requirement.

Of the six competency areas thus far discussed, the first four are considered by many teacher educators to be the core of the vocational teacher education curriculum. It is interesting to note therefore, that according to the SIU study, only five states made specific requirements of all of these four courses. It is probable, however, that some of these courses were intended to be included under the heading of General Vocational Courses, which was listed by 12 other states in the T & I teacher certification requirements.

DIRECT PROFESSIONAL EXPERIENCE

As checked against the SIU findings, the other three competency areas identified by Walsh turned up the following results:

Preservice Teacher Training: Of the 38 states requiring some college preparation for certification of trade and industrial teachers in 1970, four also required the completion of a short school-sponsored preservice teacher training program. Of the 12 states that granted standard certification on the strength of a high school diploma, six required teachers certified on that basis to complete a preservice training program.

Journeyman Experience: According to Walsh, teachers rated this direct experience as the most conducive to success. All states reported a requirement in this area but the work experience specified for T & I teachers ranged from 2,000 hours in two states (not necessarily journeyman level) to a maximum of eight years in one state (learner and journeyman level). Between these two extremes, the rest of the states indicated work experience requirements ranging from three to six years.

Practice Teaching: The SIU study reported that supervised practice teaching, highly ranked by teachers and teacher educators in the Walsh study, was specified by only 14 states as prerequisite to vocational teacher certification.

LEAVES IMPACT IN DOUBT

Thus it appears that present T & I teacher education programs in most states tend to reflect the opinions and suggestions of those engaged in vocational education. However, there is very little consensus on the proper "mix".

More importantly, comparison of the two studies seems to emphasize that opinions and suggestions expressed in the decade of the fifties are far from achieving universal implementation among the states as represented by present certification requirements. It may be too optimistic to assume that the opinions and suggestions generated by current or future studies will have any greater success, if indeed the opinions and suggestions of more recent studies are significantly different from those expressed in the 1950's

Any national assessment of teacher education programs should attempt to compare teaching results from states where there are few if any certification requirements with those from the dozen or so states that require all courses identified as most important to teaching success. Such a comparison would indicate whether beliefs and opinions of educators in the field are, in fact, a valid approach toward developing teacher training programs and certification requirements. Assuming that the findings of such a comparsion lent credence to opinion research, it would provide additional documentation to help persuade teacher educators and certification officials to implement needed changes identified by such studies.

TIME TO CHECK VALIDITY

It seems that sufficient work has already been done in obtaining opinions. Now our efforts need to be directed toward validating those opinions. The many variations in teacher certification requirements among the 50 states offer an opportunity to compare the results of teaching with and without those experiences thought to be necessary for teaching success.

The experiment is already operating across the nation. Now we need to collect data and interpret results before changes based on a rationale of vested opinion are instituted in teacher education curriculums and certification standards.

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*John P. Walsh. Teacher Competencies in Vocational and Industrial Education. Washington, D.C.: U.S. Government Printing Office, 1960. OE-84006, Bulletin No. 285.

**An Analysis and Synthesis of State Certification Requirements for Teachers of Secondary Trades and Industries and Post-Secondary Trades and Technical Programs. The Department of Technical and Industrial Education, School of Technology, Southern Illinois University, October, 1970.

DOCUMENT RESUME

AUTHOR	Stitt, Thomas R.
TITLE	Structured Occupational Internship for Experienced Vocational Teachers
INSTITUTION	Southern Illinois University, Carbondale, Dept. of Agricultural Industries.
SPONS. AGENCY	Illinois Research and Development Coordinating Unit, Springfield.
REPORT NO.	Pub-7
PUB DATE	May 70
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DESCRIPTORS	Agricultural Education, Beginning Teachers, Interagency Coordination, Internship Programs, Preservice Education, Program Coordination, Program Descriptions, Program Evaluation, School Industry Relationship, Teacher Education, Vocational Agriculture Teachers, Vocational Education, Work Experience Programs.

ABSTRACT

The rapid industrialization of agriculture has necessitated the implementation of programs which more effectively coordinate state supervision activities, industry participation, and teacher education. In order to meet this need, a structured occupational experience was designed to provide beginning teachers with agricultural industry-related occupational experiences. This was achieved through a three-phase program including: (1) pre-internship preparation, (2) occupational internship, and (3) post-internship analysis. These phases were integrated into a course entitled "Structured Occupational Internship for Experienced Vocational Teachers". A brief description and evaluation of this program is included in this report. (Author/ JS)

INTRODUCTION

This report presents the results of a research project entitled, "Structured Occupational Internship for Experienced Vocational Teachers". The project proposal outlines the key objectives as follows:

1. Design and develop a course, including structured occupational experience, to provide the teacher on-the-job training in selected areas of agricultural related industries.
2. Field test the course with vocational agricultural teachers enrolled at Southern Illinois University.
3. Evaluate results of the structured occupational internship by:
    a. Comparing reported curriculum changes of participants with non-participants;
    b. Comparing reported competency levels of the participants with non-participants.
4. Make recommendations, based on the evaluation and experience gained from field testing the course.

The rapid "industrialization" of agriculture has necessitated the implementation of programs to more effectively coordinate state supervision activities, industry participation, and teacher education. In order to meet this need a structured occupational experience was designed which provides beginning teachers with agricultural industry related occupational experiences.

It was found that participants made significantly more curricular changes in the General and Agricultural Mechanics areas than in the Horticultural and Agricultural Business areas. To what extent this is an internship cause and effect relationship is conjecture at this point.

COMPETENCY LEVELS

Participants reported statistically significant increases in competency levels in 5 out of the 11 units of "General" agriculture. The five included Orientation, Career Opportunities, Agriculture Salesmanship, Business Structure and Procedure, and Sales and Service. It is difficult to evaluate the areas of Agricultural Mechanics, Horticulture and Agricultural Businesses because not all participants were involved at the same level of exposure and therefore biased the results of the distribution.

SUMMARY:

In summarizing the results of the follow-up study we found that:

(1) Participants and non-participant instructors were sufficiently similar to establish confidence that comparisons would be valid.

(2) When comparing participants with non-participants, a Chi Square Analysis indicated reported curriculum changes for participants were significant in the areas of General and Agricultural Mechanics.

(3) Reported participants competency levels were significantly greater in 5 of the 11 units under General when comparing participants to non-participants. Results of the other three areas - Agriculture Mechanics, Horticulture Business must be considered by individual groups and as such, participants report

a higher degree of confidence than the average of non-participants.

ADDITIONAL CONSIDERATIONS FOR STRUCTURED OCCUPATIONAL EXPERIENCE

The preliminary evaluation of the Structured Occupational Internship for Experienced Vocational Teachers indicates that Agricultural Occupations Instructors report greater changes made in curricula and a higher degree of confidence in the area considered than reported by a non-participant control group. There was also a favorable verbal or "free response" by all of the participating teachers. These preliminary results are sufficient to recommend that the designed course be continued.

There are, as with any new effort, some suggested changes which should be experimented with in the future operation of the program.

(1) Multiple sections should be offered allowing for one section to be composed of occupational teachers interested in only that area, (i.e., Horticulture or Agricultural Mechanics)

(2) Length of pre-internship period could be reduced from one week to 2 or 3 days. This requires a more efficient utilization of class time and assumes the participant will have greater knowledge of the area selected.

(3) Provide greater latitude of internship opportunities for the internees.

STRUCTURED OCCUPATIONAL EXPERIENCE
A PART OF IN-SERVICE TEACHER EDUCATION

by
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In 1969 the National Advisory Council on Vocational Education issued a failing grade to vocational education in the nation's schools. To remove the failing mark, school personnel are encouraged to implement occupational training programs which will educate willing men and women to a level of adequate employability.

In vocational education in agriculture, programs must be initiated that will adequately equip youth for employment in agricultural occupations found more frequently in the city than on the farm. The percentage of enrollees in agricultural occupations and applied biological science with a non-farm agricultural occupational objective will continue to increase. This movement may be frightening to a teacher with only limited experience in the non-farm business sector of agriculture.

THE NEED

Teacher education institutions must accept some of the responsibility for the failing grade vocational education has received. In the past, agriculture teachers who came from the farm were endowed with ideal occupational experience. Today, teachers of agricultural occupations need occupational experience in nonfarm agricultural business to supplement and complement experiences in production agriculture. Teacher educators are challenged to provide in-service teacher education programs designed to acquaint teachers with nonfarm agricultural occupations and to assist them in planning relevant training activities for students.

PROMISING APPROACH

A program was initiated by the Agricultural Education Division, University of Illinois, to help fill the void in the preparation and experience of in-service secondary and post-secondary teachers of agricultural occupations. The program, consisting of three modules, focused on problems commonly encountered by employees of agricultural firms. The modules were concerned with moving products into agricultural firms, handling personnel and products from the agricultural firm to the customer.

Each module constituted a course with the last module of the three-course sequence being taught during the summer of 1970. Each course provided structured, on-the-job occupational experience under the supervision of both the training station manager and the University coordinator, plus related classroom instruction. For a period of four weeks, teachers worked in a cooperating business during the morning hours and attended two-hour class sessions in the afternoons.

Structured occupational experience. Teachers were placed for structured experience in agricultural firms within daily commuting distance of the University. Cooperating businesses included agricultural supply firms, agricultural product firms, agricultural mechanics firms, and ornamental horticulture firms which were recommended by a consulting group acquainted with agricultural firms in the area. Work sheets were used to direct the structured experiences and served as a means for the teachers to record information about the operation of the firm.

The structured, on-the-job experiences were planned to provide the teachers with an overall understanding of the operation of a nonfarm agricultural business and to acquaint them in a realistic way with the knowledge and skills needed by employees. A sample of the skills experienced by teachers working in the specialized agricultural firms are as follows:

Agricultural Supply

Mixing bulk fertilizer
Calibrating a sprayer
Cleaning, bagging and labeling certified seed
Formulating feed

Ornamental Horticulture

Fertilizing greenhouse plants
Making corsages
Mixing and sterilizing soil
Merchandizing flowers

Agricultural Products

Sampling and inspecting grain
Calculating grain dockage and shrinkage
Operating truck scales
Operating automatic grain handling equipment

Agricultural Mechanics

Assembling new machinery
Adjusting tractor engine valves
Repairing tractor transmission
Inventorying machinery parts

Classroom activities. Concurrent activities in the classroom focused upon analyzing the experiences of the teachers. Emphasis was placed on intellectualizing experiences in terms of implications for secondary and post-secondary agricultural occupations training programs. Information recorded on the work sheets during the structured experience phase was used as a basis for discussion in the classroom. Teachers had an opportunity to compare and discuss organization, management, and operation of different types of nonfarm agricultural firms. The level of skill and ability required for entry into various jobs frequently highlighted the discussions. Using the experiences gained and selected references, the teachers prepared workable teaching units for use in their instructional programs.

EVALUATION

Participants generally concluded that the concept of using structured, on-the-job occupational experience is the best substitute for full-time employment and the most feasible method for obtaining comprehensive work experience in a short period of time. Some specific statements made by teachers in evaluating their experience in the program are as follows:

". . . developed competencies in areas where I did not feel confident."

". . . invaluable experience for teaching agricultural occupations."

". . . developed a much better understanding of the operation of a nonfarm agricultural business."

". . . the content of my courses will change as a result of the experience."

". . . provided firsthand experience in a nonfarm agricultural firm without having to leave the teaching profession."

Businessmen were receptive to the program and expressed a willingness to cooperate in any way possible for the improvement of vocational education.

Cooperating businessmen commonly related that the on-the-job experience gained by teachers should result in better trained employees for nonfarm agricultural firms.

SUMMARY

In conducting programs in agricultural occupations to meet the present and emerging responsibilities of secondary education, and post-secondary education, teachers must have realistic understanding of the jobs for which they are preparing students. Teachers have always relied on in-service teacher education programs to assist them in keeping programs up-to-date. Agricultural occupations teachers are charged to develop innovative approaches to prepare students for the world of work, and teacher educators are challenged to assist them by providing relevant occupational experiences through in-service teacher education programs.

DOCUMENT RESUME

AUTHOR	Beasley, Gary; Smiley, James
TITLE	Occupational Experience for Vocational Education Teachers: A Handbook for Teacher Educators.
INSTITUTION	Ohio State University, Columbus. Center for Vocational and Technical Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
REPORT NO	Inf-Ser-40
PUB DATE	June 1971
NOTE	32 p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
DESCRIPTORS	Cooperative Programs; Educational Needs; Employment Experience; Guidelines; Inservice Teacher Education; Literature Reviews; Preservice Education; Program Development; Program Planning; School Industry Relationship; Teacher Education; Teacher Educators; Teacher Experience; Teacher Improvement; Vocational Education; Vocational Education Teachers; Work Experience Programs.

ABSTRACT

New avenues and arrangements must be found for improving the occupational competency of teachers in order to meet the demand for skilled and recently-trained workers. Thus, this publication was designed to help teacher educators develop cooperative programs with industry so they may provide occupational experience programs for present and prospective teachers. The compact nature of the review and organization into guideline format should provide a ready reference for the practitioner seeking to develop and improve occupational experience programs for teachers in his college or university. Special attention was directed toward a review of existing programs, the development of guidelines for future program development, areas of concern, and alternative approaches. (Authors)

SCOPE STATEMENT

A problem of growing concern for vocational and technical education is that of improving the occupational competency of teachers. The rate of technological change makes previously acquired job skills obsolete within a short period of time and thus creates the demand for new ones. New avenues and arrangements must be found for improving the occupational competency of teachers in order to meet the demand for skilled and recently trained workers.

Vocational and technical education, through cooperation with industry, can operate viable new programs to solve this problem. This paper is an attempt to inform teacher educators and state supervisors of efforts that have been and are now being made in this direction. Included are reviews of selected programs developed to improve the occupational competency of vocational and technical teachers. Also included are guidelines useful in the development of additional programs, problem areas identified as related to the development of these programs, and potential areas for future research.

THE PROBLEM

Many vocational education teachers are failing to provide students with the relevant knowledge and contemporary skills needed for successful employment because they are not keeping abreast to the degree necessary of occupational changes brought about by the advancing technology in business and industry. If teacher educators are to equip vocational teachers with pertinent occupational competencies, several problems must be resolved. For instance, how can teachers keep current their own knowledge and skills needed in business and industrial occupations? When and where can they obtain on-the-job occupational experiences? How can the teachers obtain all of these experiences in the shortest possible period of time? These topics are the primary areas of concern upon which the guidelines and future research will be based.

Need

Many educators and other public leaders have not discerned that the forces of technology are immediate in importance and national in scope, and that they carry serious consequences for the economic and social life of the entire coutry. Consequently, young people are entering a technological world of work unequipped with the tools they need for survival. Recent changes in automation have brought about new job descriptions and procedures in modern industry. Vocational education teachers need occupational experience to better teach the essentials for gainful employment.

The Manpower Report of the President (1970) notes the persistence of excessively high youth unemployment and school dropout rates and calls for better vocational-technical curriculums to conform to technological developments. This report also relates a 13 percent teenage unemployment rate among all unemployed, with 27 percent in city poverty areas. In addition, school dropouts in 1968 totaled 600,000 (Department of Labor, 1970). Underemployment, as well as unemployment, result from a lack of adequate training for the labor force.

Vocational education teachers need experience in business and industry because of changes in automation. High-speed computers, data-processing equipment, and electronic control devices have necessitated revamping the procedures and the job descriptions for numerous occupations. Therefore, vocational teachers should become competent in the job skills that are needed to teach to their students.

Through successful work related experience, a person becomes familiar with the skills, technological knowledge, and mores of the occupation he will be teaching. The report of The Advisory Council on Vocational Education (1968) relates enrollment growth of vocational education, expansion in the number of occupations and groups to be served, and an environment of social, economic, and technological unrest and change which points to an imperative need for teacher upgrading.

Smith (1969) refers to the responsibility of teacher preparation as a "perennial" or continuous process. He states that the teacher cannot receive all the training and knowledge required for a life-time career while enrolled in a preservice program. Teachers need to participate in in-service programs as well as preservice programs and should be encouraged individually to pursue personal development activities.

Cooperation of Education and Industry

The potentialities of an occupational experience program of teacher preparation suggest that higher education and industry could cooperatively bring about important breakthroughs in vocational and technical teaching. Ultimately, vocational education will be only as good as those who teach it (Venn, 1964). The preparation and continued updating of teachers must be the responsibility of the colleges and universities which provide teacher education experience in the relevant disciplines. Such teacher preparation programs will involve of necessity some new relationships between educational institutions and business and industry.

Burt (1967) points out that when industry and education ignore each other or fail to cooperate actively, the inevitable result is that schools turn out unqualified workers and industry suffers from shortages of skilled manpower. The students and society are cheated, while industry is forced either to engage in expensive in-plant training programs or be satisfied with untrained workers who give low-grade performance. The public thus pays twice-once for ineffective schools and again for the expense of ineffectively trained workmen in industry.

Federal legislation has provided funds for preservice and in-service while developing occupational competency that can be applied in future teaching.

Operational Features

Enrollment in the vocational internship program is open to high school graduates, junior college transfers, and adults. The internship consists of a formal agreement between CSU and the student who is interested in becoming a vocational education teacher. The agreement details the individual's program of formal instruction and the correlated occupational experiences.

Strengths and Limitations

One of the many advantages of the program is that it gives direction to the student - he knows where he is going and he knows what his goals are. Equally important, he is provided with a detailed plan for accomplishing his goals.

Because of his orientation to teaching while still learning, he will be more cognizant of methodology, related training, technical information, and good teaching practices. The occupational skills he learns will have added significance because he knows he will one day be teaching them. Another advantage is the wage-earning capacity, which not only affords the intern the opportunity to be self-supporting while learning, but helps him develop a spirit of independence and accomplishment which can carry over into his future teaching.

Transferring from a junior college to a four-year institution is a problem that many vocational students have faced. Under the CSU internship program, the loss of credits should be minimal. With each intern having a highly personalized program tailored to his needs, the advancement and articulation should be smooth and effective. It takes time to fully develop potential instructors under the internship approach, but it is a positive, workable program.

Implications

Through adequate planning and supervision in developing the formal agreement between the student and the university, such a program shows promise in relieving the shortage of qualified teachers. Probably the greatest positive factor in the program is the time element. A student can receive the occupational experience and professional training in a five-year-or-less time span. Also, the employment makes it possible for more students to enter the field of education.

SUGGESTED GUIDELINES

Early in the planning stage, the program developers must decide what type of cooperative teacher training program is to be offered. While some may want to develop a program to meet both preservice and in-service to establish objectives and in relating to planning the program. The following is a summary of the coordinator's activities. He should:

1. Help establish objectives of the program.
2. Survey the business community to determine resources available for preservice and/or in-service education purposes.
3. Establish and meet with the advisory committee.
4. Select work stations.
5. Coordinate activities of business and industrial personnel, teachers, educators, and participants.
6. Select participants.
7. Place participants.
8. Visit participants at their work stations to help solve any problems they might have.
9. Evaluate participants through visitations and conferences with employers.

10. Help evaluate the program by gathering data from participants, employees, and resource personnel.

AREAS OF CONCERN

When analyzing the problems which might arise in preparing occupationally competent teachers, the following points should be considered:

1. The type of work experience must provide the most beneficial learning experience for individual teacher situations.
2. The occupational experience program should provide time for adequate experience in the functions of industry and in occupational requirements.
3. Vocational teacher education programs should include occupational experience as a requirement for graduation.
4. Occupational experience should be required for certification and to maintain certification.
5. In areas where there is a lack of industry, provision must be made to give vocational teachers the necessary training in programs such as summer workshops.
6. Occupational experience programs must be organized to insure participation of all vocational education teachers.
7. Programs should be provided to allow for participation of teachers without a strain on the local school.
8. The occupational experience program must be integrated with the the existing teacher education program to insure adequate teacher preparation.

Program planners must recognize that there are some real problems to overcome in implementing programs to provide occupational experiences for vocational teachers. Rankin (Bell, 1967), lists five obstacles to teacher improvement:

1. Complacency - People tend to take comfort in adhering to an established routine, which makes it difficult to promote staff development programs.
2. No incentive - People in a given situation may not feel the need to participate in self-improvement programs.
3. Heavy work load - Teachers are busy. A heavy work load may preclude someone from taking part in a self-improvement program.
4. Limited resources - The lack of funds for scholarships and grants make it more difficult to recruit participants.
5. Limited and inflexible programs of graduate schools - Would-be participants may be more interested in satisfying the requirements for a degree than in improving their occupational competency.

When teachers have an opportunity to work in business and industry, some may decide to leave teaching. The salaries and opportunities in industry may appear more attractive than those found in teaching.

When summer experiences are used to gain occupational competence, the questions of financial support arise. The undergraduate student may be counseled and encouraged to seek his own occupational experience, and many may be unable to find adequate jobs. Adequate supervision and guidance must be provided to insure the best occupational experience for teachers.

When the occupational experience programs utilize industrial facilities, instructional use often conflicts with production use. The work experience programs should be arranged to provide for the least amount of conflict. Also, the participants in the training program must get experience with the most advanced equipment in industry and business to insure adequate teacher preparation.

ALTERNATIVE APPROACHES

The cooperative teacher training program is not the only approach to updating the occupational competencies of teachers. In some instances it may not even be the best approach. Occupational competency can be improved through a meaningful work experience obtained solely by the individual teacher. This work experience is more likely to be acquired during the summer. Teachers can be granted a leave of absence to work in an industrial setting, in which case the terms of the leave can specify the types of acceptable work experience. Teachers can enroll in in-service workshops, institutes, and summer programs designed to update occupational competency - these programs may include field trips and lectures by business and industrial personnel. Teachers also can update their competencies through professional reading, and by attending professional conferences.

DOCUMENT RESUME

AUTHOR	Brooks, William Kent
TITLE	A Study of the Attitudes and Teaching Behaviors of Occupational Orientation Teachers in Mississippi.
PUB DATE	1974
NOTE	125 p.; Ph.D. Dissertation, The Ohio State University, Columbus.
DESCRIPTORS	Career Education; State Surveys; Teacher Attitudes; Teacher Behavior; Teacher Characteristics; Teacher Orientation; Vocational Education Teachers
IDENTIFIERS	Mississippi

ABSTRACT

The major purposes of the study were to describe the attitudes held by occupational orientation teachers toward career education/occupational orientation and to determine what personal, experience, training, and teaching behavior variables contributed to high positive attitudes. Also included was an investigation of differences in the frequency of teaching behaviors when these behaviors were associated with classes of personal, experience, and training variables. Nine conclusions are presented relative to occupational orientation teachers. Chapter one presents background information, a statement of the problem, purpose of the study, questions for investigation, definition of terms, and limitations and organization of the study. Chapter two discusses foundations of attitude measurement and foundations of career education, reviews literature related to personal experience and training variables, and a summary of the literature reviewed. Chapter three describes methods and procedures, population, instrumentation, data collection, statistical models, and scoring of attitude statements. Chapter four details results, purpose, and analysis of data. Chapter five provides a summary and discussion,

conclusions, and recommendations, followed by the survey questionnaire and a bibliography. Fifteen tables present data on attitude scores, relationships, and distributions tabulated by various categories, and test-retest means and correlation coefficients. (Author/NH)

CONCLUSIONS

Conclusion 1. Occupational orientation teachers for the most part strongly support the concepts of career education/occupational orientation.

Conclusion 2. Knowledge of the type school district in which teachers are employed, race, sex, age, years experience teaching occupational orientation, hours of credit received in vocational guidance courses, and amount of time spent teaching occupational orientation does not significantly contribute to the prediction of the attitude that occupational orientation teachers hold toward career education/occupational orientation.

Conclusion 3. Knowledge of the extent that occupational orientation teachers are involved with the following teaching behaviors significantly contributes to the prediction of their attitudes toward career education/occupational orientation: (1) recruiting community worker participation in occupational orientation classes, (2) holding discussions with guidance counselors concerning what to teach in occupational orientation classes, (3) leading classes in occupationally-related field trips, (4) holding discussions with local businessmen concerning what to teach in occupational orientation classes, (5) locating work experience stations for students, and (6) holding discussions with students concerning the relationship of school subjects to the world of work. However, knowledge of the extent that teachers are involved in single behaviors does not increase the predictability of attitudes. This means that the relationships that exist between teaching behaviors and attitudes are too complex to be explained in terms of a single behavior.

Conclusion 4. Many teachers experience difficulty in accomplishing the teaching behaviors associated with the goals of the occupational orientation program. This problem is especially acute with regard to obtaining community participation in programs of instruction.

Conclusion 5. Younger teachers are less active than older teachers in engaging community workers as instructional resources for occupational orientation programs.

Conclusion 6. Occupational orientation teachers from county schools are more active than teachers from other districts in trying to involve other teachers in their programs of instruction.

Conclusion 7. Teachers who are involved with teaching occupational orientation on a full-time basis are more active than part-time teachers in trying to involve other teachers in their programs of instruction. These teachers are also more committed than part-time teachers to teaching the relationship between school subjects and the world of work.

Conclusion 8. Teachers from municipal separate school districts are able to articulate the relationship of school subjects to the world of work more freely than teachers from county units.

Conclusion 9. Black occupational orientation teachers are more dedicated than white teachers in conveying to students the relationship of school subjects to the world of work.

RECOMMENDATIONS

Recommendation 1. A future in-service training session for occupational orientation teachers should include a discussion of the findings of this research. This discussion should focus on the relationships between their beliefs about career education and the problems encountered in "acting" upon these beliefs. An effort should also be made during the in-service training to (1) identify reasons why groups of teachers differ with respect to the teaching behaviors investigated in this research, and (2) identify other pertinent teaching behaviors not accounted for in this research. A representative group of school administrators, community workers, and business and industrial leaders should be assembled to share in the discussion.

Recommendation 2. Teachers of occupational orientation should be employed on a full-time basis as opposed to a part-time basis.

Recommendation 3. New occupational orientation teachers should be required to spend an internship with teachers who are effectively utilizing community resources in their programs of instruction.

Recommendation 4. Local school administrators should provide additional support and encouragement for diversified field trips, including ventures outside the immediate vicinity if local resources are limited.

Recommendation 5. Prior to the beginning of the school year, a plan of action for the occupational orientation program should be jointly developed by the occupational orientation teacher, the principal, and the guidance counselor. This plan should encompass an appropriate schedule of necessary instructional preparation time, classroom instruction, and out-of-school activities.

Recommendation 6. Local school should conduct surveys to identify community workers and business and industrial leaders who would be willing to participate in the planning and conduct of occupational orientation programs. The documentation should include the instructional areas in which the participants can serve, their availability to the school, and the type of service that they can render to programs of instructions.

Recommendation 7. Teacher education activities for occupational orientation teachers should be more sensitive to the "behavioral" aspects of occupational orientation programs. This training should focus upon what levels of behavior are realistic according to the nature of the teaching environment, the teachers themselves, and the size of the community. Ways to accomplish these behaviors in different type communities should be a vital part of the instruction. Reinforcement experiences should be incorporated into in-service training events to permit teachers to (1) review their success in behaving consistently with their attitudes and values, and (2) to reassess their commitment to these attitudes.

Recommendation 8. The objectives of the occupational orientation program need to be crystalized and stated in behavioral terms. The ability to conduct research and evaluation is dependent upon realistic and clearly stated objectives. Occupational orientation teachers should be involved in developing these objectives. The data from this research provides an objective base for discussing appropriate teaching behaviors.

Recommendation 9. Future research should study the differences between the attitudes that occupational orientation teachers hold toward career education and teachers who are not associated with these programs. One control group should be comprised of general curriculum teachers from the schools which offer occupational orientation. A second control group should be selected from the teaching staffs of schools which do not offer occupational orientation.

Recommendation 10. Additional research is needed to determine if the high, positive attitudes that occupational orientation teachers hold toward career education are meaningful in terms of "good" and "bad" programs. This could be accomplished with the existing data by comparing the score on individual attitude items with the responses on the associated behavioral statement. Additionally, the researcher could identify exemplary occupational orientation teachers and teachers who are considered to be doing the least in terms of specified program criteria and compare the mean attitude scores of the two groups. The groups should be small to permit the researcher to follow up the findings in more detail through personal contacts.

Recommendation 11. Future research should study the developmental sequence which leads to mature attitudes toward career education. A record of experiences relating to the "when," "where", and "how" of attitude development would provide a base for determining which communication techniques are most effective in changing and reinforcing attitudes.

Recommendation 12. Future research efforts should include relationships between psychological variables and attitudes and behaviors regarding career education. Consideration should be given to using Rosenberg's Self-Esteem Scale and Troldabl and Powell's Dogmatism Scale, since these factors might be related to career education.

Recommendation 13. The relationship between teacher attitudes and behaviors, and student learning is important to improving career education. These factors should be investigated in future research topics.